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WPP 001/4 MB 1,8 i 1

1. Edition

En

PES 4 A 50 D 410 RS 1010 X

RSV 250-950 A 4 B 60 L

Komb.-Nr. 0 400 474 158

company OM 636

estoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,7-1,8 (1,65-1,85)

mm (from BDC) RW=9,0-12,0 mm - Zy1. 4

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm /100 strokes 3	Difference cm ^{-/} 100 strokes 4	Control rod travel mm 2	Fuel delivery cm //100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
930	12,4+0,1	2,3-2,4	0,2(0,25)			
250	9,4-9,6	0,8-1,4	0,2(0,25)			
			7.			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection	deflection of control mm mm rev/min		Internediate rated speed			Control- lever deflection	Lower rated speed Control rod travel rev/min mm		11 9 /	rque control Control rod travel mm
lever 1	2	3	4	5	6	in degrees	8	9	10	11
loose	800	0,3-1,0	-	_	-	ca. 26	250	9,0	930	12,4-12,5
10056	Χ =	5,5					250	9,4-9,6	300	13,6-14,2
ca. 59	11,4 4,0 1150	970-990 1065-1095 0,3-1,7					470-530	=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ult-load stop	6 Rotational- speed limitat		iel delivery paracteristics	Starting I	uei delivery 5	(4a) tdl			
	emp 40°C (104°F) cm ¹ /1000 strokes	Note changed to) rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm		
930	22,5-23,5 (21,5-24,5)	970-990*	-	-	-	-	-	-		
						, c	t			

Checking values in brackets

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WPP 001/4 MB 1,8 r 4 2. Edition

En

PES 4 A 50 D 410 RS 1025

RSV 650-1200 A 5 B 729 L

supersedr.4.83

Komb.-Nr. 0 400 474 154 0 400 474 155 A 5 C 729 L

company Daimler-Benz OM 636

engine OM 636

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump, Settings

Port closing at prestroke

(1,65-1,85)

mm (trom BDCF RW 9,0 - 12,0 mm

100 strokes 4	mm 2	cm //100 strokes 3	mm 6
0,2(0,25)			
0,15(0,2)			
	-	**	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm 2	rev/min Control rod travet mm rev/min 3	Interme	ediate rated	d speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	3 To	rque control Control rod travel mm
loose	1000 × =	0,3-1,0 4,5	-	-	-	ca. 34	650 100	9,5 min.19,5	1180 400	13,6-13,7 14,5-15,1
ca. 57	12,6 4,0 1450	1220-1230 1365-1395 0,3-1,7					650 865-92	9,9-10,1 = 2,0	500	13,6-13,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

C	ill-load stop	6 Rotational- speed limitat		uel delivery paracteristics	Starting Idle	luel delivery 5	4a) Idle stop	
	cm ¹ /1000 strokes	Note: changed to) rev/min 3	rev/min	cm /1000 strokes	rev/min 6	cm ¹ /1000 strokes	rev/min	Control root travel mm
1180	29,0 - 30,0 (28,0 - 31,0)	1220-1230*	_	<u>-</u>	-	-	-	-
	,						et .	

Checking values in brackets

^{* 1} mm less control rod travel than col 2

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WPP 001/4 SOA 2.8 a

1. Edition

En

PES 3 A 80 D 410/3 RS 1183

Komb.-Nr. 0 400 463 104

RSV 325-1075 A 8 B 492-1 L

superseders

company Sonacome

F 3 L 912

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

1,9-2,0 (1,85-2,05)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm //100 strokes 3	Difference cm ^{-/} / 100 strokes 4	Control rod travel mm	Fuel delivery cm ^{-/} 100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1075	11,0+0,1	5,0-5,1	0,2 (0,35)			
325	8,4-8,6	1,0-1,6	0,2 (0,35)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	liate rated	speed	Control- lever deflection in degrees	Lower	rated speed Control rod travel mm	1 3	rque control Control rod travel mm
loose	800 x = 5,5	0,3-1,0	-	-	-	ca. 22	325 325	5,5 5,9-6,1	1075 500	11,0-11,1 12,0-12,1
ca. 54	4,0	1115-1125 1155-1185),3-1,7					410-4/	0 = 2,0	935	11,4-11,6

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull load stop emp 40°C (104°F)	Rotational- speed limitat	ed limitat characteristics		Starting fuel delivery 5			da Idle stop		
rev/min	cm 1/1000 strokes 2	changed to) rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min	cm //1000 strokes 7	rev/min 8	travel mm 9		
1075	50,0-51,0 (48,5-52,5)	1115-1125*	-	-	•	-	-	-		

Checking values in brackets

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WPP 001/4 SOA 3,7 a
2. Edition

En

PES 4 A 80 D 410/3 RS 1183

RSV 325-1150 A 8 B 493-1 L

supersed 84 companySonacome F 4 L 912

Komb.-Nr. 0 400 464 095

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,9-2,0 (1,85-2,05)

mm (from BDC)

Rolational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm/300 strokes 3	Difference cm ^{-//} 100 strokes	Control rod travel mm	Fuel delivery cm:/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	10,6+0,1	5,0-5,1	0,2(0,35)			·
325	9,3-9,5	1,7-2,3	0,2(0,3)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1	r rated speed Controt rod travel mm	d rev/min Control rod travet mm rev/min 3	Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	(3)	rque control Control rod travel mm
loose	800 x = 3,	0,3-1, 5	-	•	-	ca. 17	325 100 325	8,9 min. 19,5	450	10,6-10,7
ca. 5 1	4,0	1190-1200 1245-1275 0,3-1,7						9,3-9,5 40 = 2,0	900	11,0-11,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

6	ult load stop		speed limitat Sa characteristics			Starting fuel delivery 5 4a Idle stop				
rev/min	emp 40°C (104°F) cm //1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min	cm ¹ /1000 strokes 7	rev/min 8	Control rod travel mm 9		
1150	50,0-51,0 (48,5-52,5)	1190-1200*	-	_	-	-	-	-		

Checking values in brackets

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WPP 001/4 SOA 3,7 a 1

2 Edition

En

PES 4 A 75 D 410/3 RS 1183 Komb.-Nr. 0 400 464 104 RSV 325-1400 A 8 B 742 - 1L

supersede 9 • 84 company Sonacome engine F 4 L 912

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,85-2,05)

mm (from BDC)

Rotational speed rev/min 1	Control rc d travel mm 2	Fuel delivary cm//100 strokes 3	Difference cm ¹ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm //100 strokes 3	Spring pre-tensioning (forque-control valve) mm 6
1400 325	11,0+C,1 7,9-8,1	5,5-5,6 0,7-1,3	0,2(0,35) 0,2(0,3)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	rated speed Control rod travel mm 2	Control rod travel mm rev/min	Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
loose	800 X = 5	0,3-1,0 •75	-	-	-	ca. 22	325	7.5	1440 500 885	11,0-11,1 12,0-12,1 11,4-11,6
ca.69	4,0 1	440-1450 525-1555 ,3-1,7					325 640 -	7,9 - 8,1 700 = 2,0		11,4-11,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

Test oil temp 40°C (104°F) rev/min cm²/1000 strokes		Note changed to)			raie	uet delivery 5	Idle stop Control rod travel	
rev/min	cm /1000 strokes	rev/min	rev/min	cm1/1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
1400	55,0-56,0 (53,5-57,5	1440-1450*	800	50,0-52,0 (48,5-53,5)	-	-	-	-
		4		·				
								b

Checking values in brackets

WPP 001/4 MWM 3.9 b

1. Edition

PES 4 A 80 D 320 RS 1282

RS 350/1500 A 2 B 2073-1 R

supersede 5 company MWM D 229-4

Komb.-Nr. 9 407 083 285

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(2,10-2,30)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (forque control valve)
rev/min	mm 2	cm //100 strokes	cm ¹ / 100 strokes	mm	cm1/100 strokes	mm
1480	9,0-9,1	5,4-5,5	0,25(0,4)	2	3	6
350	5,9-6,1	0,6-0,9	0,2(0,35)			_

Adjust the fuel delivery from each outlet according to the values in .

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	diale rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	(2)	rque control Control rod travel min 11
loose VHca.59 FH voll	- , -	0,3-1,0 15 40-1550 1570-1600 0,3-1,7	-	-	-	FHca.34	350 300 400 550 1350	6,0 6,6-7,2 4,8-5,6 max. 3,5 max. 2,6	1480 500 800 1000	9,0-9.1 10,2-10,3 10,0-10,3 9,6-9,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ill-load stop	6 Rotational- speed limitat	11301	iel delivery paracteristics	Starting f	uel delivery 5	4a Idle stop		
Test oil te rev/min	emp 40°C (104°F) cm ¹ /1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ¹ /1000 strokes 7	rev/min	Control rod travel rom	
1480	54,0-55,0 (52,5-56,5)	1540-1550*	800	54,5-56,5 (52,5-58,5)	100	19,0-21,0 mm RW	-	-	
500	52,0-54,0 (50,0-56,0)		1000	55,0-57,0 (53,0-59,0)					

Checking values in brackets



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WPP 001/4 KHD 1 g 11 2. Edition

En

PES 4 A 80 D 410/3 RS 1300

RSV 325-1150 A 8 C 2163 - 2 L

Komb.-Nr. 0 400 464 130

supersedr 9 • 84 company KHD

F 4 L 912 51 kW/2300 min⁻¹ Schlepper DX 4,10

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,9 - 2,0 (1,85-2,05)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm //100 strokes 3	Difference cm ^{-//} 100 strokes 4	Control rod travel mm	Fuel delivery cm*/100 strokes 3	Spring pre tensioning (torque-control valve) mm
1175	10,8+0,1	5,2 - 5,3	0,25(0,4)			
325	8,6-8,8	1,0 - 1,6	0,2 (0,3)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	trate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	11 3	rque control Control rod travel mm
loose	800 x =	0,3-0,7 3,25	-	•	-	ca. 21	325	8,2		10,8-10,9 12,0-12,1
ca. 57	9,8 4,0 1400	1215-1225 12 7 5-1305 0,3-1,4					325 4 6 0-520	8,6-8,8 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp 40°C (104°F)	Rotational-speed limitat (3a) Fuel delivery characteristics			Starting I	luel delivery 5	4a) Idle stop	
rev/min	cm //1000 strokes	Note changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm /1000 strokes 7	rev/min	Control rod travel mm
1175	52,0 - 53,0 (50,5 - 54,5)	1215-1225*	800	51,5 - 53,5 (49,5 - 55,5)	100	115,0-125 (112,0-128 =19,5-21, mm RW	0)	-
			_					

Checking values in brackets

WPP 001/4 KHD 1 g 10

3. Edition

PES 2 A 80 D 310/3 RS 1322

RSV 325-1150 A 8 B 2011-1 L

Komb.-Nr. 0 400 462 054

25 kW bei 2300 min-1 Schlepper D 3607-

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,85-2,05)

mm (from BDC)

Rotational speed rev/min t	Control rod travel mm 2	Fuel delivery cm //100 strokes 3	Difference cm ⁻¹ / 100 strokes 4	Control rod travel mm	Fuel delivery cm*/100 strokes 3	Spring pre-tensioning (torque control valve) mm
1150	11,1+0,1	5,9-6,0	0,25(0,4)			
325	8,9-9,1	1,2-1,8	0,2(0,35)			

Adjust the fuel delivery from each outlet according to the values in .

B. Governor Settings

Degree of deflection of control lever	r raled speed Control rod travel mm		Interme	diate rated	speed 6	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	rev/min	rque control Control rod travel mm
loose	800	0,3-0,7	-	-	-	ca. 26	325	8,5	1150	11,1-11,2
ca. 60 (2a)		1190-1200 1320-1350 0,3-1,4					325 690-7	8,9-9,1 50=2,0	500 1010	12,0-12, 1 11,5-11, 7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

20	ull-load stop	6 Rotational- speed limitat		uel delivery naracteristics	Starting	fue! delivery 5	4a) Idle stop	
	emp 40°C (104°F) cm ¹ /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ¹ /1000 strokes	rev/min 8	Control rod travel mm
1150	59,0- 60,0 (57,5- 61,5)	1190-1200*	750	5 7 ,0-59,0 (5 5 ,0-6 1 ,0)			-	-

Checking values in brackets

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WPP 001/4 KHD 1 g 14

2. Edition

En

PES 3 A 80 D 410/3 RS 1324

Komb.-Nr. 0 400 463 147

RSV 325-1075 A 8 C 2163-1 L

supersed KHD

companyF 3 L 912

34 kW/2150 min⁻¹ Schlepper DX 3,10

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testolius 4113

1,9-2,0 (1,85-2,05)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm*/100 strokes 3	Difference cmy 100 strokes	Control rod travel mm	Fuel delivery cm ^{1/100} strokes	Spring pre-tensioning (torque-control valve) mm
800	11,6+0,1	5,1-5,2	0,25(0,35)			
325	8,5-8,7	1,0-1,6	0,2 (0,3)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever 1	r rated speed Control rod travet mm	t rev/min Control rod travet mm rev/min	Interme	ediale rate	speed 6	Control- lever deflection in degrees 7	rev/min	rated speed Control rod travel mm	3 to	rque control Control rod travet mm
loose	800 x =	0,3-0,7 4,0	-	-	-	ca. 17	325 100	8,1 min.19,5	800 500 900	11,6-11,7 11,6-11,7 11,4-11,6
ca.50	9,7 4,0 1320	1115-1125 1155-1185 0,3-1,4					325 480-540	8,5-8,7) = 2,0	1075	10,8-11,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop	6 Rotational- speed firmitat	11301	uel delivery naracteristics	Starting fuel delivery 5 4a Idle stop				
rest oil to	emp 40°C (104°F) cm /1000 strokes 2	Note changed to) rev/min 3	rev/min 4	cm ¹ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	Control rod travel mm	
800	51,0-52,0 (49,5-53,5)	1115-1125*	•	-	100	115,0-125 (112,0-128 = 19,5-21, mm RW	,0)	-	

Checking values in brackets

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WPP 001/4 KHD 1 g 13

2. Edition

PES 3 A 80 D 410/3 RS 1324

Komb.-Nr. 0 400 463 148

RSV 325-1250 A 8 C 2168-1 L

supersed 9.84

engine F 3 L 912

45 kW/2500 min⁻¹ Schlepper DX 3,30

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,9-2,0 (1,85-2,05)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm 1/100 strokes 3	Difference cm ^{-y} 100 strokes 4	Control rod travet mm 2	Fuel delivery cm*/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	10,7+0,1	5,6-5,7	0,25(0,35			
325	7,4-7,6	1,0-1,6	0,2 (0,3)			
		<u>}</u>	<u> </u>			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	Control rod travet mm rev/min	Intermed	tiate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm		rque control Control rod travel mm
loose	800 x =	0,2-0,7 4,0	-	-	-	ca. 19	325	7,9	1250 500 1090	10,7-10,8 11,3-11,4 10,9-11,2
ca. 57	9,7 4,0 1565	1290-1300 1330-1360 0,3-1,4					325 425- 4 89	8,3-8,5 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(A)	est oil temp 40°C (104°F) Note.		11301	rel delivery paracteristics	Starting I	fuel delivery 5	(4a) Idi	e stop Control rod
rev/min	cm ¹ /1000 strokes 2	changed to) rev/min	rev/min 4	cm ¹ /1000 strokes 5	rev/min	cm //1000 strokes 7	rev/min 8	travel mm 9
1250	55,5-56,5 (54,0-58,0)	1290-1300*	800	48,5-50,5 (46,5-52,5)	100	115,0-125, (112,0-128 =19,5-21, mm RW	0)	-

Checking values in brackets

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Test Specifications Fuel Injection Pumps (1)PP 001/4 MAN 16,0 h and Governors 1. Edition

PE 10 A 90 D 520/5 LS 2362 RQV 750 AB 985 R

Komb.-Nr. 0 400 649 179

1- 8- 7-6 - 3 - 5 - 2 - 10- 9 - 4

0-27-72-99-144-171-216-243-288-315° + 0,5 ° (+ 0,75 °)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC) (1,45-1,65)Rotational speed Control rod Fuel delivery Difference Control rod Spring pre-tensioning (torque-control valve) Fuel delivery cm³/ rev/min cm³/100 strokes 100 strokes mm cm³/100 strokes mm 725 11,1-11,2 12,6+0,10,3 (0,45 200 6,4-6,61,2-1,8 D,2 (0,4)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	i .	1		Intermediate	rated sp	eed		Lower rated	speed			Slidings	leeve travel
Degree of deflection of control	rev/min Control rod travel	mave:	الت	Degree of deflection of control		Control (od	Degree of deflection		Control retravel	od	Choings	1
lever	mm	rev/min		lever	rev/min	mm	4	of control lever	rev/min	mm	3	rev/min	mm
1	2	3		4	5	6		7	8	9		10	11
ca. 29	11,6 4,0	745-755 765 ₂ ,-785		,	-	-		<u>-</u> (3a)	-	-		-	-

Torque control travel a = - mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil te		Rotational-speed 2b timitation intermediate speed	Fuel deli- high idle s	very characteristics 5a speed 5b	Starting idle switching	\sim	Torque- travel	control 5
rev/min 1	cm ³ /1000 strokes .	rev/min 48	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
725	110,5-111,5 (108,5-113,5		-	•	-	-	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

4.85

WPP 001/4 KHD 6.1b1

3. Edition

PES6A85D 410/3 RS2366

EP/RS 325/1325 AOB 691 DL AOC 691 DL

Komb.-Nr. 0 400 866 057

KHD company BF6L913 engine 88 187/2650 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,85-2,05)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm 1/100 strokes	cm ⁻¹ / 100 strokes 4	mm 2	cm 7100 strokes	mm 6
1325	11,4+0,1	7,6-7,7	0,3(0,45)			
200	8,9-9,1	1,6-2,2	0,3(0,5)			
					(,

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control	travel	Control rod travel	Interme	diate rated	speed	Control- lever	Lower	rated speed Control rod travel	3 to	rque control Control rod travel
lever 1	mm 2	mm rev/min	4	5	6	deflection in degrees 7	rev/min 8	mm 9	rev/min	mm 11
loose	800	0,3-1,0	-	-	-	VH ca.6		6,0	1325	
VHca.60		1355-1365 1450-1480 0 - 1,0				FH ca.3	0 400 800 1300 1400	2,7-3,7 2,7-2,9 2,0-2,2 0 -1,0	1060	12,1- 12,3 11,7 - 11,9

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

						011101				
	ull-load stop emp_40°C (104°F)	Rotational- speed limitat	speed limitat characteristics				Starting fuel delivery 5 4a Idle stop			
rev/min	cm ¹ /1000 strokes	changed to) rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min	cm ⁷ 1000 strokes	rev/min 8	Control rod travel mm		
LDA 1325	0 bar 76,0-77,0 (74,0-79,0)	1355-1365	LDA 500	0 bar 44,0-47,0 (42,0-49,0)	100	118,5-128 (115,5-131 = 18,0 - 18,4 mm R				

Checking values in brackets

Test at n = 500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 A RS 2366 + RSAOB 691 DL AOC 691 DL		0 0,34 0,15	13,4-13,5 11,4-11,5 13,0-13,1 11,9-12,1

Notes

(1) when n

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

KHD 6,1 b 1

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WPP 001/4 KHD 6,1 b 2

1. Edition

En

PES 6 A 85 D 410/3 RS 2366

EP/RS 325/1325 AOB 709 DL

AOC 709 DL

supersedes company KHD

engine

BF 6 L 913 88 kW/2650 min⁻¹

Komb.-Nr. 0 400 866 063

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 411

(1,85-2,05)

mm (from BDC)

Rotational speed rev/min	travel	Fuel delivery cm //100 strokes	Difference cm ⁻¹ / 100 strokes	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
1325	11,4+0,1 8,9-9,1	7,6-7,7 1,6-2,2	0,3(0,45)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 to	rque control Control rod travel mm
loose	800 X =	0,3-0,7	-	-	-	VH ca.66 FH ca.30		6,0 2,7-3,7	850 500	11,9-12,1
VH ca.66		1355-1365 1450-1480 0-1,0				rn ca.sc	800 1300 1400	2,7-3,7 2,7-2,9 2,0-2,2 0-1,0	500	11,9-12,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp 40°C (104°F)	Rotational- Note Rotational- Note Speed limitat (3a) Fuel delivery characteristics			Starting fuel delivery 5 4a Idle stop				
rev/min	cm //1000 strokes 2	changed to .) rev/min 3	rev/min 4	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min 8	Control rod travel mm	
LDA 1325	0,5 bar 76,0-77,0 (74,0-79,0)	1355-1365*	LDA 500	0 bar 44,0-47,0 (42,0-49,0)	100	118,5-128 =18,0-18,4 mm RW		-	

Checking values in brackets

KHD 6,1 b 2

- 2 -

Test at n =	700	rev/min increasing pressure - in bar gauge pressu
	/ 1/11	mcreasing

Pump/governor	Setting	Measurement	diminution Control rod travel-
	Gauge pressure bar	Gauge pressure = bar	mm (1) .
PES 6 ARS 2366 +EP/RSAOB 709 DL AOC 709 DL		0,38 0,10	11,4-11,5 11,1-11,2 9,4- 9,8

Notes

(1) when n -

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

40

WPP 001/4 VMA 18,6 a

1. Edition

En

PES 10 A 90 D 410 LS 2374

RSV 250-750 A 1 B 623 L

supersedes=

company Motori VM

Komb.-Nr. 0 400 879 102

1-10- 9- 4- 3 - 6 - 5 - 8 - 7 - 2 0-27-72-99-144-171-216-243-288-315 ° ± 0,5 ° (± 0,75 °)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3.25 - 3.45)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ¹ /100 strokes	cm ¹ / 160 strokes	mm	cm1/100 strokes	mm
1	2	3	4	2	3	6
750	10,5+0,1	8,5 - 8,6	0,3			
250	6,6-6,8	1,0-1,6	0,25			
	1				1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1) Uppe	r rated speed		Interme	diate rated	speed	(4)	Lower	rated speed	1(3)	rque control
Degree of deflection of control lever	travel	Control rod travel mm rev/min		5	6	Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
<u> </u>	4	3	4	5	6	′	8	9	10	11
loose	800	0,3-1,0	-	-	-	ca.18	250	6,2	750	10,5-10,6
	X =	4,0					100 250	min.19,5		10,5-10,7
ca. 46	4,0 8	790-800 800-830 9,3-1,7						6,6-6,8 5 = 2,0	300	11,8-12,4

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ulf-toad stop	6 Rotational- speed limital		el delivery aracteristics	Starting I	uel delivery 5	(4a) Idi	e stop
rev/min	emp 40°C (104°F) cm³/1000 strokes 2	Note. changed to .) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm ¹ /1000 strokes	rev/min 8	Control rod travel mm
750	85,0-86,0	790-800 *	-	-	-	-	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

4.85



40

KHD

WPP 001/4 KHD 9,6 p

n 1. Edition

PES 6 A 95 D 410 RS 2416 Komb.-Nr. 0 400 846 534 RQ 750 AB 1199 L

supersedes

company

engine BF

BF 6 L 413 FRT 112 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,75-1,85 (1,70-1,90) mm (from BDC)

or cosing at pies	ITORE	(1,70-1,90)	min (irom BUC)			
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve)
710	11.8+0.	12.8 - 13.0	0,35(0,6			
			1		_	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider ck	(1)	Full-load s Setting po			cifications (4)	Idle spe			cifications (5)	Torque	control (3)
rev/min	Control rod travel mm 2		rev/min 3	Control rod travel mm	Control rod travel mm	rev/min	rev/min 7	Control rod travel	rev/min	Control rod travel	rev/min	Control rod Utravel
-	-		-	-	10,6 3,5	750-755 781-791		-	-	-	-	· -

Torque-control travel on flyweight assembly dimension a =

mm

750-755 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	3 b	Starting f	uel delivery d Contrai
rev/min 1	cm³/~1000 strokes 2	rev/min 3	rev/min 4	cm ³ /~1000 strokes 5		rev/min 6	cm ³ /1000 strokes / mm
710	127,5 - 129,5 (125,5 - 131,5)	-	-	-		100	115,0 - 125,0 (112,0 - 128,0) = 13,2 - 13,4 mm RW

Checking values in brackets

4.85

BOSCH

WPP 001/4 KHD 9.6 k 3. Edition

RSV 325-1100 A 8 B 2040 L

supersedes 5.84

A 8 C 2040 L

KHD company

engine

BF6L413 FR Schlepper DX 230 147 kW/2200 min 1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

PES 6 A 95 D 410 RS 2416

Komb.-Nr. 0 400 876 279

Port closing at prestroke

1,75-1,85 (1,70-1,90)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (forque-control valve)
rev/min 1	mm 2	cm ^{1/100} strokes	100 strakes	mm 2	cm 7100 strokes	mm 6
1100	10,6+0,1	11,2-11,4	0,3 (0,6)			
325	5,4-5,6	0,9-1,5	0,3 (0,5)			

Adjust the fuel delivery from each outlet according to the values in \Box

B. Governor Settings

Degree of deflection of control lever	er rated speed Control rod travet mm	Control rod travel mm rev/min	Interme	ediate rated	speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm	rev/min	Control rod travel
loose		0,3-1,0 4,0	-	~	-	ca.16	325 100	5.5 min.19,0	1100 550	10,6-10, 10,6-10,
(2a) 49	9,6 3,7 1330	1140-1150 1165-1195 0,3-1,7					325 440-5 600	5,9-6,1 00 = 2,0 max. 1,0	375	11,8-12,

The numbers denote the sequence of the lests

C. Settings for Fuel Injection Pump with Fitted Governor

				- p - 111111 1 11100		•••••		
	ull load stop emp 40°C (104°F)	Rotational- speed limitat	(3a) Fr	uel delivery paracteristics	Starting Idle	fuel delivery 5	4a Id	le stop
rev/min	1	changed to) rev/min 3	rev/min 4	cm ¹ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm
LDA 1100	0,5 bar 111,5-113,5 (109,5-115,5)	1140 -1150*	LDA 900 LDA 500	0,5 bar 114,0-117,0 (112,0-119,0) 0 bar 77,5-80,5 (75,5-82,5)	100	120,0-130, = 13,4 - 14,0 mm RW	0 -	-

Checking values in brackets

KHD 9,6 K

- 2 -

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
4.	Gauge pressure =	bar Gauge pressure =	bar mm (1)
PES6ARS2416 + RSVA8B 2040	0.50	0,36 0,25 0	10.6-10,7 10.3-10.4 9,6-9,9 9,5-9,6

Notes

(1) when n 🥕

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

40

WPP 001/4 KHD 8,8 a 2 2. Edition

F٥

PES 4 A 95 D 410 RS 2424 Komb.-Nr. O 400 874 216 RSV 300-900 A7B 616 DL A7C 616 DL supersedes 11.82 company TAM engine F4L413R

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,75,1,85 (1,70-1,90)

estoil-ISO 4113

mm (from BDRW=9,0-12,0 mm

Rotational Speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque control valve)
tev/min	mm 2	cm 1/100 strokes	100 strokes	mm	cm1/100 strokes	mm 6
900	8,8-8,9	7,6-7,8	0,3 (0,6)			
300	5,9-6,1	0,7-1,3	0,3 (0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of	cr rated speed	rev/min Control rod travel	Interme	diate rated	speed	4 Control	Lower	rated speed Control rod travel			
deflection of control lever 1	mm 2	mm rev/min	4	5	6	lever deflection in degrees 7	rev/min 8	mm 9	rev/min	mm 11	
loose	800 X =	0,3-1,0 5,5	-	-		ca.27	300 100	5,5 min. 19,0		8,8-8,9 9,4-9,6	
ca.58	7,8 4,0 1100	940-950 945-975 0,3-1,7					300 435-49 600	5,9-6,1 5 = 2,0 max. 1,0	400	9,8-9,9	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp_40 °C (104°F)	Rotational- speed limitat		uel delivery naracteristics	Starting I	uel delivery 5	(4a) Idi	e stop
rev/min	cm ¹ /1000 strokes	changed to) rev/min	rev/min 4	cm ³ /1000 strokes	rev/min	cm ¹ /1000 strokes 7	rev/min 8	travel mm
900	75,5-77,5 (73,5-79,5)	940~950*	-	-		115,0-125, 112,0-128 = 12,5 - 13,1 mm H	,0)	•

Checking values in brackets

Testoil-iSO 4113

WPP 001/4 MAN 9.2 a 2 3. Edition

PES 5 A 95 D 410 LS 2426 Komb.-Mr. 0 400 845 012

RQ 250/1150 AB 839 L

supersedas 1.82 company MAN

1 - 3 - 5 - 4 - 2 je $72^{\circ} + 0.5^{\circ} (+ 0.75^{\circ})$

D 2555 MX/MXF 141 kW/2300 min⁻¹ MAN-Mr. 1-7618

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1.25-1.45)

mm (from BDC)

		1,20-1,40/				
Rotational speed rev/min 1	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ¹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1150	11,2+0,1	11,5 - 11,7	0,3(0,6)			
250	6,4-6,6	0,9 - 1,5	0,2(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider ck	Full-load : Setting po		_	cifications (4)	Idle spe	•	-	cifications (5)	Torque	control 3
rev/min	Control rod travel mm	rev/min 3	Control rod travel mm 4	Control rod travel mm 5	rev/min	rev/min	Control rod travel rmm 8	rev/min	Control rod travel mm		Control rod travel mm
600	15,6-16,3	600	16,0		1195-1210 1255-1285		6,5	100 250 370-4	min.7,9 6,4-6,6 10=2,0	600 935	11,2-11,3 11,6-11,7 11,4-11,6 11,2-11,5

Torque-control travel on flyweight assembly dimension a =

Speed regulation At 1195-1210 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever pp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting f	uel delivery
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes	rev/min 6	cm ³ /1000 strokes / mm
1150	114.,5-116.,5 (112,5-118.,5)	250	800 500	115,0-118,0 (113,0-120,0) max. 116,5	100	146,5-156,5
				(max. 118,5)		

Checking values in brackets

4.85

Test Specifications Fuel Injection Pumps (1) NPP 001/4 KHD 12,7 h and Governors

2. Edition

Festoil-ISO 411

superseded , 92 PE 8 A 95 D 410 LS 2451 ROV 300-1250 AB 1085 L company KHD Youh .- Nr. 0 400 648 123 F 8 L 413 F engine 188 kM (256PS) 1 bei 2500 min

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	10,340,	9,2 - 9,4	0,3(0,6)			
300	7,1-7,3	1,8 - 2,4	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	speed		Intermediat	e rated sp	eed	Lower rated	speed		Slidings	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min (28	of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	1
max.	1250	15,2-17,8	-	-	-	ca.12	100 300 455-5	min.8,7 7,1-7,3 15 = 2,0	650	0,7-0,9 4,6-4,8 8,4
ca.64	9,3 4,0 1500	1290-1300 1370-1400 0 - 1,0				3a				

Torque control travel a = 0,4

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) 2 rev/min cm³/1000 strakes 1 2		Rotational-speed (2b) Fuel de high idle intermediate speed rev/min (4a) rev/min 3		cm³/1000 strokes	idle switchin	$\overline{}$	Torque- travel rev/min	Control (5) Control rod travel mm
1250	91,5 - 93,5 (89,5 - 95,5)	1290-1300*	1000 700	91,5 - 94,5 (89,5 - 96,5) 91,0 - 94,0 (89,0 - 96,0)	(20,0-130,0 17,0-133,0 20 (80-240)	700 400	10,3-10,4

Checking values in brackets

Festoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 15,8 b

PE 10 A 95 D 610/4 LS 2452

RQV 300-1250 AB 1129 L

supersedes (1)

2. Edition

Kemb.-Tr. 0 400 649 225 1 - 10- 9 - 4 - 3 - 6 - 5 - 8 - 7 - 2

 $0 - 27-72 - 99 - 144-171-216-243-288-315^{\circ} + 0.5^{\circ} (+ 0.75^{\circ})$

engine F 10 L 413 F 228 kW (310 PS), bei 2500 min

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	2,0 = 2,1	mm (from BDC)			
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Difference cm³/ 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
	-	3		2	3	6
1250	10,3+0,1	9,1 - 9,3	0,3(0,6)			
300	6,4-6,6	1,2 - 1,6	0,3(0,5)			
					1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed		Lower rated	speed		Cliding	dagua taguat
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min 3	0	Degree of deflection of control lever	rev/min 5	Control travel mm 6	rod	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
max.	1380	15,2-17,	8	-	•	-		ca. 18		min.8,0	300	1,2-1,3
ca.51	9,3 4,0 1500	1290-130 13 7 5-140 0 - 1,	25						300		5000 1000 1300 1380	,6-2,9 5,4-5,6 7,7-7,8 8,7
								<u>3a</u>				

Torque control travel a = 0,2 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter rev/min		intermediate speed		ldle switchir	fuel delivery 6 ng point cm³/1000 strokes	Torque travel	Control cod travel	
1	2	3	4	5	6	7	8	9
1250	90,5 - 92,5 (88,5 - 94,5)	1290-1300 *	1000 800	(88,5 - 95,5)		1 20,0 - 130,0 (117,0-133,0)500	

Checking values in brackets

WPP 001/4 KHD 19,0 n 1

2. Edition

PE 12 A 95 D 610 LS 2453 RQV 1150 AB 996 L Komb.-Nr. 0 400 640 096

supersedes 1.85 company KHD

1- 4- 9- 8- 5 - 2 - 11- 10- 3 - 6 - 7 - 12 0-15-60-75-120-135-180-195-240-255-300-315° ±0,5° (±0,75°)

engine F 12 L 413 F

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	2,0-2,1 (1.95-2.15)	mm (from BDC)			
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1110	10,2+0,1 E	8,9-9,1	υ,35(0,6			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated: Degree of deflection of control lever 1	rev/min Control rod travel mm	Control rod travel mm rev/min (28)	Intermediate Degree of deflection of control lever	rated sports rev/min	Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel mm 3	Stiding s	mm
ca. 26	9,2 4,0	1150-1155 1175-1190	-	-	-	- 3a	-	-	1100	0,5-0,9 2,7-3,1 5,5-5,8 9,0-9,1 10,5

Torque control travel a =_

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle s	very characteristics 5a	Idle	fuel delivery 6	Torque- travel	Control rod
rev/min	cm³/1000 strokes .	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	8	7	8	9
1110	88,5-90,5 (86,5-92,5)	1150-1155*	-	-	-	-	1	•

Checking values in brackets

WPP 001/4 KHD 6,1e1 5. Edition

PES 6 A 95 D 410 RS 2471 Komb.-Nr. 0 400 876 275

RSV 325-1150A 8 B 674 DL A 8 C 674 DL supersedes .83 company KHD engine:

BF 6 L 913 C 132 kW/2300 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

(1,85-2,05)Port closing at prestroke mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve) mm
1150	11,8+0,1	10,8-11,0	0,3(0,6			
325	7,2-7,4	1,6- 2,2	0,3 (0,5)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	(4) Lowe	r rated spi	eed	(3) To	rque control
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	Control rod travel
<u> </u>	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	-	-	-	ca.15	325	6,8	500	11,8+0
	Х =	4,75					100	min. 19		
§ · 55	1190-13 1235-13 1400=0	200=10,8 265= 4,0 3-1.7					325 615-6	7,2-7,4 75=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-	load stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting Idle	fuel delivery	5a Idle stop	
Test oil ter rev/min 1	mp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ¹ /1000 strokes	rev/min 8	Control rod travel mm
LDA 1150	0,7 bar 108,0-110,0 (106,0-112,0)	1190-1200*	LDA 850 LDA	0,7 bar 102,5-105,5 (100,5-107,5) 0 bar 62,0-64,0 (59,5-66,5)		120,0-130, (117,0-133, = 15,9 - 16,4 mm RV		6,8

Checking values in brackets

KHD 6,1 e 1 - 2 -

Testatn =

500

rev/min decreasing pressure - in har gauge pressure

i	1	Control rod travel difference
Gauge pressure - bar	Gauge pressure = bar	mm (1)
0,7 bar		11,8 - 11,9
	0	10,6 - 10,7
	0,27	11,6 - 11,7
	0,1	10,8 - 11,0
	·	0,7 bar 0 0,27

Notes

(1) when n in

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

40

WPP 001/4 KHD 6,1 e 8. Edition

En

PES 6 A 95 D 410 RS 2471

RSV 325-1150 A 8 B 707 DL

Komb.-Nr. 0 400 876 274

A 8 C 707 DL

supersed 3.84 KHD company engine BF6L 913 C 132 kW Einbau 2300

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,9 - 2,0 (1,85-2,05)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm 1/100 strokes 3	Difference cm ^{-/} 100 strakes 4	Control rod travel mm	Fuel delivery cm*/100 strokes	Spring pre-tensioning (torque-control valve) mm
1150	11,8+0,1	10,8-11,0	0,3(0,6)			
325	7,1-7,3	0,9-1,5	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings.

	r rated speed		Intermed	diate rated	speed	4	Lower	rated speed	(3) To	rque control
deflection of control	travel mm	travel mm rev/min				Control- lever deflection	rev/min	travel	fev/min	travel
lever 1	2	3	4	5	6	in degrees 7	8	9	10	11
loose		0,3 - 1,0	-	-	-	ca. 21	325	6,7	1150	11,8-11,9
	X =	4,75					100 325	min.19,0 7,1-7,3	500	11,8-12,0
ca. 55	-	1190-1200					590-6			
2a	4,0 1400	1235-1265 0,3-1,7								
										2

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(20)	emp 40°C (104°F)	Rotational- speed limitat Speed limitat Rotational- characteristics			Starting I	fuel delivery 5	4a) fdle stop		
rev/min	cm ¹ /1000 strokes	Note changed to) rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min	cm1/1000 strokes	rev/min	Control rod travel mm	
LDA 1150	0,7 bar 108,0-110,0 (106,0-112,0)	1190-1200*	LDA 850 LDA 500	0,7 bar 102,5-105,5 (100,0-108,0) 0 bar 62,0-64,0 (59,5-66,5)	100	125,0-135, 122,0-138, = 15,5 - 15,8 mmRW	0)	-	

Checking values in brackets

KHD 6,1 e

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES 6 ARS 2471 + RSVA 8 B707DL A 8 C707DI	0,70	0,37 0,09 0	11,8-11,9 11,5-11,6 10,1-10,3 9,9-10,1

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

1

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 MAN 9,2 e 6. Edition

n

PES 5 A 95 D 410 LS 2488 Komb.-Nr. 0 400 845 029

ROV 250-1100 AB 850 DL

supersedes 5.84 companyMAN

1-3-5-4-2 je 72° ±0,5° (±0,75°)

engine D2565 M/MF 141 kW/2200 min⁻¹ MAN-Nr. 1-7726

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke (1	,45-1,65)	mm (from BDC)			
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	11,2+0,1	11,8-12,0	0,3(0,6)			
250	5,7-5,9	1,1-1,7	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

deflection (rev/min Control rod travel	Control rod travel mm rev/min (2a)	of control	rev/min	control rod travel	Lower rated Degree of deflection of control lever	speed rev/min	Control rod travel mm 3	Sliding s	leeve travel
ca.42		14,4-17,6 1140-1150 1165-1195 0 - 1,0	-	-	-	ca.13	250 315-	min./,3 15,7-5,9 375= 2,0 nax. 1,0	500	0,7-0,9 3,5-3,8 5,0-5,4 7,7

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b fimitation intermediate speed	high idle s	very characteristics 5a speed 5b	ldie switchir	ng point	travel	Control rod travel
1	2	3	4	5	6	cm ³ /1000 strokes	rev/min	9 mm
1100	117,5-119,5 (115,5-121,5)	1140-1150*	800 500	116,5-120,5 (114,5-122,5) max.116,5 (max.118,5)	100 250	15,5-16,5 mm RW 6,0 mm RW	1100 800	11,2+0, 11,2+0, 11,3+0,

Checking values in brackets

* 1 mm less control rod travel than col. 2

4.85

WPP 001/4 MAN 16,0 c 7

1. Edition

PE 10 A 95 D 520/5 LS 2501 RO 250/1150 AB 1171 R Komb.-Nr. 0 400 649 229 1-8-7-6-3-5-2-10-9-4 0-27-72-99-144-171-216-243-288-315 ° ± 0,5 ° (± 0,75 °)

companyMAN engine D 2530 MTXF

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1.65-1.85)mm (from BDC7v) 10

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1150	11,4+0,	11,8-12,0	0,3 (0,6)			
250	5,9-6,1	1,5-2,1	0,35(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	ng of slider eck 1	Full-load			cifications (Idle spec	-			Torque	
rev/min 1	Control rod travel mm 2	rev/min	Control rod travel rorm 4	Control rod travel mm 5	rev/min	4)	Setting prev/min	Control rod travel		cifications Control rod travel mm	rev/min	Control rod travel mm
600 VH =	19,2-20,8 max. 46 °	600	20,0	10,4 - 4,5	1195-12 1270-13			6,0	100 250 330-	min. 7,5 5,9-6,1 370 = 2,0	855	11,4-11,5 11,9-12,0 11,7-11,9 11,4-11,7
n flyweig	ontrol travel ght assembly dimen	sion a =	0,20	mm	;	Spec	ed regula		195 - 12	210 min ⁻¹		1 mm less contro rod trave

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics (3b)	Starting f	
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	Control rod travel cm ³ /1000 strokes / mm
LDA 1150	0,5 bar 117,5-119,5 (115,5-121,5)	-	LDA 750	0,5 bar 119,5-122,5 (117,5-124,5)	100 250	166,5-176,5 (163,5-179,5) 6,5mm RW
			LDA 500	0 bar 76,5-79,5 (74,5-81,5)		
Chasting	lues in brackete					

ecking values in brackets

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

MAN 15,0 c 7 - 2 -

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 10 A LS2501 + RQ AB 1171 R	0,70	0,35 0,24 0	11,9-12,0 11,6-11,7 10,7-11,0 10,1-10,2
,			

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

WPP 001/4 MAN 16,0 c 8

1. Edition

PE 10 A 95 D 520/5 LS 2501 Komb.-Nr. 0 400 649 230

RO 250/1250 AB 1171-1 R

supersedes

D 2530 MTE 295 kW

1 - 8 - 7 - 6 - 3 - 5 - 2 - 10 - 9 - 4 0 - 27 - 72 - 99 - 144 - 171 - 216 - 243 - 288 - 315° + 0,5° (+ 0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump, Settings

Port closing at prestroke

(1.65-1.85)

mm (from BDC) Zyl. 10; RW = 9,0-12,0 mm

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	12,7+0,	12,9-13,1	0,35(0,6)			
250	6,4-6,	6 1,0-1,6	0,35(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	g of slider	Full-load	•	•		idle spe	•			Torque	control	
PRG che rev/min 1	Control rod travel	Setting por rev/min 3	Control	Test spec Control rod travel mm	rev/min	Setting previous	Control rod travel mm	Test spe rev/min 9	control rod Control rod travel mm 10	rev/min	Control rod travel mm 12	3
600	19,2-20,8	600	20,0	11,7 4,5	1295-1310 1355-1385		6,5		min.8,0 6,4-6.6	-	•	
VH=r	nax. 46°			.,0				340-3	80= 2,0 max.1,0			
									·			
orque-co	ontrol travel						12	295-13	10 min -1		1 mm less co	

Torque-control travel

Speed regulation: At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting f	tuel delivery
rev/min	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes	rev/min 6	cm ³ /1000 strokes:/ mm
LDA 1250	0,7 bar 128,5-130,5 (126,5-132,5)		LDA 750 LDA 500	0,5 bar 122,5-125,5 (120,5-127,5) 0 bar 76,5-79,5 (74,5-81,5)	100	166,5-176,5 (163,5-179,5) =18,2-18,8 mm RW

Checking values in brackets

MAN 16,0 c 8

1250 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travet- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 10 ALS 2501 +RQAB 1171-1 R	0.70	0 0,37 0,24	12,7-12,8 10,2-10,3 12,4-12,5 11,2-11,5

Notes

(1) when n =

rev/min and gauge pressure =

bar (* maximum full-load control rod travel)

WPP 001/4 MAN 16,0 c 9

1. Edition

PE 10 A 95 D 520/5 LS 2501 Komb.-Nr. 0 400 649 234

RQV 250-1150 AB 1179 R

supersedes MAN

1 - 8 - 7 - 6 - 3 - 5 - 2 - 10 - 9 - 40 -27 -72 -99 -144 - 171 - 216 - 243 - 288 - 315° ± 0.5° (± 0.75°) engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection, Pump Settings

Port closing at prestroke

1.65-1.85

mm (from BDC) ZV1. 10

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1150	12,0+0,1	12,9-13,1	0,3(0,6)			
250	5,9-6,1	1,5-2,1	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	Intermediate rated speed			speed	Clinian -		
deflection	rev/min Control rod trave! mm 2	Control rod travel mm (2a)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min	mm
max.	1200	15,2-17,8	-	-	-	ca. 12	100 250	min.7,5 5,9-6,1	200 600	0,7-0,9
ca. 46	11,0 4,0 1400	1190-1200 1240-1270 0-1,0						380=2,0	1050 1250	4,1-4,4 6,7-7,2 9,7
						(3a)				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten rev/min	d stop np. 40°C (104°F) 2	intermediate speed	high idle s	very characteristics 5a speed 5b cm ³ /1000 strokes	idle switchin	ng point	Torque- travel	Control to travel
1	2	3	4	5	6	7	8	9
1150	128,5-130,5 (126,5-132,5		500	124,0-127,0 (122,0-129,0		15,7-16,3 mm RW	-	-

Checking values in brackets

WPP 001/4 MAN 16,0 c 10

1. Edition

<u> En</u>

PE 10 A 95 D 520/5 LS 2501 Komb.-Nr. 0 400 649 235

RQV 250-1250 AB 1180 R

supersedes*

company: MAN

engine

1 - 8 - 7 - 6 - 3 - 5 - 2 - 10 - 9 - 40 - 27 - 72 - 99 - 144 - 171 - 216 - 243 - 288 - 315° ± 0,5° (± 0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection, Pump Settings

Port closing at prestroke

(1,65-1,85)

mm (from BDC) Zy1. 10: RW = 9.0-12.0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1250	12,3+0,1	12,3-12,5	0,3(0,6)			
250	5,9-6,1	1,5-2,1	0,3(0,5)			
						•

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed		Intermediate rated speed			Lower rated	speed	Sliding sleeve travel		
Degres of deflection of control lever	rev/min Control rod travel mm 2	Control rod (1a) travel mm (2a) 3	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	1
max.	1290	15,2-17,8	-	-	-	ca. 12		min.7,5		0,7-0,9
ca. 47	11,5 4,5 1500	1290-1300 1365-1395 0-1,0					320-3	5,9-6,1 880=2,0 ax.1,0		4,1-4,4 6,6-7,1 9,8
						(3a)				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Test oil temp. 40°C (104°F) 2 int		Rotational-speed (2b) limitation intermediate speed rev/min (4a)	(30)		idle switchin	fuel delivery 6 ng point cm³/1000 strokes	Torque- travel	Control of travel mm
1	2	3	4	5	6	7	8	9
LDA 1250	0,7 bar 123,0-125,0 (121,0-127,0)	1290-1300*	LDA 750	0,7 bar 119,5-122,5 (117,5-124,5		170,0-180,0 (167,0-183,0		-
			LDA 500	0 bar 76,5-79,5 (74,5-81,5)	250	7,0 mm RW		

Checking values in brackets

MAN 16,0 c 10

- 2 -

Test at n =

1250

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 10 A 2501 +RQVAB 1 180 R	0,70	0,39 0,28 0	12,3-12,4 11,6-11,9 10,5-10,7 10,0-10,1

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control (od travel)

PE 10 A 95 D 520/5 LS 2501 RQV 250-1 Komb.-Nr. 0 400 649 236

RQV 250-1150 AB 1180-1R

supersedes_

company: MAN

engine.

1-8-7-6-3-5-2-10-9-4 0-27-72-99-144-171-216-243-288-315° + 0,5 ° (+ 0,75 °)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Testoil-ISO 4113

Port closing at pres	stroke (1	1,/-1,8 L.65-1.85)	mm (from BDC)	yl. 10		
Rotational speed rev/min 1	1	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,7+0,1	11,9-12,1	0,3 (0,6)			
250	5,9-6,1	1,5-2,1	0,3 (0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated: Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (2a)	Intermediate Degree of deflection of control fever	rated sp rev/min 5	Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel mm 3	Sliding s	mm
max. ca. 46	1190 10,7 4,0 1400	15,2-17,8 1190-1200 1235-1265 0 - 1,0	-	-	-	ca. 12	320-	min. 7,5 15,9-6,1 380=2,0 max. 1,0	600	0,7-0,9 4,1-4,4 6,7-7,2 9,8

Torque control travel a = 0,4 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed (2b) timitation intermediate speed rev/min (4a)	high idle s	very characteristics 5a speed 5b cm³/1000 strokes	Starting fuel delivery 6 Idle switching point rev/min cm³/1000 strokes		Torque- travel	control 5 Control rod travel mm
LDA 1150	0,7 bar 118,5-120,5 (116,5-122,5)	1190-1200 *	LDA 750 LDA 500	0,7 bar 118,5-121,5 (116,5-123,5 0 bar 78,0-81,0 (76.0-83,0)		16,7-17,3 mm RW	8 1150 500 870 1020	9 1,7+0,1 2,1+0,1 1,9-0,2 11,7+0,

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

MAN 16,0 c 11 - 2

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 10 ALS2501 + RQVAB 1180-1 F	0,70	0,33 0,26 0	11,7-11,8 11,5-11,6 10,5-10,8 9,9-10,0

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (1) WPP 001/4 MAN 16,0 c 12 and Governors 1. Edition

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Testoil-ISO 4113

Port closing at pres	•	1,7-1,8 (1-65-1-85)	mm (from BDC)	Zyl. 10		
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1150	12,0+0,1	12,5-12,7	0,3 (0,6)			
250	5,9-6,1	0,9-1,5	0,3 (0,5)			

Adjust the fuel delivery from each outlet according to the values in ______.

B. Governor Settings

Upper rated :	speed			Intermediate	rated sp	eed		Lowe	rrated	speed			Sliding	leeve travel
deflection	rev/min Control rod travel mm 2	Control rod traval mm rev/min 3	(1a) (2a)	Degree of deffection of control lever	rev/min	Control ro travel mm	4	Degre deflect of con- lever 7	ction	rev/min 8	Contro travel mm	l rod	rev/min	mm
max.	1190	15,2-17	,8	-	-	_		ca.	12		min.			0,7-0,9
ca. 46	11,0 4,0 1400	1190-12 1240-12 0 - 1,	70							250 320-3	15,9- 380=2			4,1-4,4 6,7-7,2 9,7
		0.4						(3a)						

Torque control travel a = 0,4 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		intermediate speed	high idle s	very characteristics 5a speed 5b	Starting Idle switchir	\circ	Torque- travel	Control co
rev/min	cm³/1000 strokes .	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	
<u> </u>	-	3	4	3	6	7	8	9
LDA 1150	0,7 bar 124,5-126,5 (122,5-128,5)	1190-1200 *	LDA 750 LDA 500	0,7 bar 124,5-127,5 (122,5-129,5 0 bar 77,5-80,5 (75,5-82,5)		170,0-180,0 (167,0-183,0	500 875	12,4+0, 12,2+0,

Checking values in brackets

*1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Testatn =

500

rev/min decreasing pressure – in bar gauge pressure increasing

MAN 16,0 c 12 - 2

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 10 ALS2501 + RQVAB 1181 R	0,70	0,35 0,26 0	12,6-12,7 11,4-11,5 10,3-10,6 9,9-10,0
			;

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 12,8 f 1

1. Edition

0 1250 AD 1104 D

PE 8 A 90 D 320 LS 2514 RQV 250-1250 AB 1184 R Komb.-Nr. 0 400 648 135

supersedes_ company: MAN

engine:

1-8-7-2-6-3-5-4 je 45 ° ± 0,5 ° (± 0,75 °)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Fort closing at pre	SITORO	(1.45-1.65)	mm (from BDC)			
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes	mm 6
1250	11,5+0,1	10,3-10,4	0,3(0,45)			
250	6 0 7 1	0.0.1.5	0.25/0.4\			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	rev/min Control	Control rod (18	detiection	e rated sp	eed Control rod travel	Lower rated Degree of deflection	speed Control rod travel	Sliding s	sleeve travel
	rod travel mm 2	rev/min (28	of control lever 4	rev/min 5	mm 4	of control lever 7	rev/min mm 3	rev/min	mm 11
max.	1290	15,2-17,8	-	-	-	ca. 13	100 min.8,4 250 6,9-7,1	200 450	0,7-0,9 2,9-3,5
	16,5 4,0 1500	1290-1300 1350-1380 0 - 1,0					340-400 = 2,0 450 max. 1,0		3,9-4,2 5,6-6,0 9,4
		0.4				(3a)			

Torque control travel a = 0,4 mm

C. Settings for Fuel injection Pump with Fitted Governor

Full-load d Control-rol Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel deli high idle :	very characteristics (5a) speed (5b)	Starting Idle switchin		Torque travel	control 5
rev/min	cm³/1000 strokes .	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	:av/min	travel
<u> </u>	2	3	4	5	6	7	8	9
1250	102,5-103,5 (100,5-105,5		500	96,0-99,0 (94,0-101,0) max. 94,0 (max. 96,0)	250	133,0-143,0 (130,0-146,0) =18,0-18,6 mm RW 7,0 mm RW	810	11,5+0, 11,9+0, 11,8+0, 11,5+0,

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

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2

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 MAN 11,1p14
4 Edition

tropicalized version

PES 6 A 95 D 410 LS 2542 Komb.-Nr. O 400 846 424 O 400 846 486 RQ 250/1100 AB 965 DL

supersedes 1.85

engine

D2566 M/NF (1) 177 kW (240 PS) MAN-Nr. 2-7283 D2566 MF-Tropen 168 kW/1500 min

(2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5-1,6 (1,45-1,65) mm (fro

. or cooning at proof		.45-1.65)	min (none boc)			
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
1100	12,0+0,1	12,5-12,7	0,3(0,6)			
250	6,0-6,2	1,1 - 1,7	0,3(0,5)			
		3				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min	Control rod	Full-load s Setting po rev/min 3		-	rev/min	Idle spec Setting p rev/min 7	Control red travel	Test spe	cifications 5 Control rod travel mm	Torque o	Control rod
600	15,6-16,4	600	16,0		1145-1160 1185-1215 0- 1,0	250		250 6 360-4	min.7,6 ,0-6,2 20=2,0 max. 1,0	-	-

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At -1160 min -1

t mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	delivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting f	tuel delivery
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /~1000 strokes 5	rev/min 6	cm ³ /1000 strokes:/ mm
1100	124,5-126,5 (122,5-128,5)	•	750 500	110,5-113,5 (108,0-116,0) max. 113,5 (max. 116,0)	00	121,5-131,5 (118,5-134,5) = 14,0 - 14,6 mm RW

Checking values in brackets

Checkin PRG che	ig of slider	Full load Setting pi		-	cifications (4)	Idle spe			cilications (5)	Torque	control
rev/min	Control rod travel mm	rev/min	Control rod travel rmm 4	Control rod travel mm 5	rev/min	rev/min	Control rod travel		Control rod travel mm	rev/min	Control rod travel mm
600	15,6-16,4	600	16,	0 11,0 4,0 1300	1185-1215		6,1	100 250 360- 500	min. 7,6 6,0-6,2 420 =2,0 max.1,0	-	-
	ontrol fravet ght assembly dimen	sien a =	-	mm	Spe	ed regula	1 tion At	145 -	1160 min	-1	1 mm less contro rod trave

Testoil-ISO 4113

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np 40°C (104 F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting f	ruel delivery
rev/min	cm ¹ /-1000 strokes 2	rev/min 3	rev/min	cm ¹ /-1000 strokes 5	rev/min	rod travel cm ³ /1000 strokes / mm 7
(2) 1100	118,0 - 120,0 (116,0 - 122,0)		500 750	102,0 - 108,0 (100,0 - 110,0) 106,0 - 109,0 (104,0 - 111,0)	250	125,0 - 135,0 (120,0 - 140,0) 9,0 - 15,0 (6,5 - 17,5)
Checking va	lues in bracke;s			·		,

B. Governor Settings

Checkin	g of slider ck		Full-load : Setting po					Idle speed regulation Setting point Test specifications (5)				Torque control		
rev/min	Control rod travel mm	U	rev/min	Control rod travel mm	Control rod travel mm	rev/min	(4)	rev/min	Control rod travel	rev/min	Control rod	rev/min	Control rod travel	

Torque control travel on flyweight assembly dimension a =

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp 40°C (104°F)	Control rod stop) der dem	ery characteristics	3 b	Idle spee	luel delivery ed
rev/min	cm³/~1000 strokes 2	rev/min 3	rev/min	cm³/-1000 strokes 5		rev/min	cm ³ /1000 strokes / m 7
	values in brackets			<u> </u>			

②

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

40

tropicalized version

WPP 001/4 MAN 11,1 p 21 1. Edition

PES 6 A 95 D 410 LS 2542 Komb.-Nr. 0 400 846 504

RQ 250/1000 AB 1137-2 L

supersedes MAN

engine 3

D 2566 M (1) 177 kW/1500 min⁻¹ MAN-Nr. 2-7409 D 2566 M-Tropen 168 kW/1500 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1.45-1.65) mm (from BDC)Zy1. 6

Rotational speed rev/min	Control rod travel • mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1100	12,0+0,1	12,5 - 12,7	0,3(0,6)			
250	6,5-6,7	0,8 - 1,4	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	Control rod travel	Full-load s Setting po		•	cifications (4)	Idle spe Setting p	Control rod travel	Test spe	cifications 5	Torque o	Control rod (3)
1	2	3	4	5	6	7	8	9	10	11	12
600	15,6-16,4	600	16,0	11,0	1145-1160	250	6,0	100	min.7,5	-	-
				4,0	1195-1225			250	5,9-6,1		
					}			370-4	10 =2,0		
j											
									_	1	
Torque-co	ontrol travel		-				11	45 -	1160 min		1 mm less control

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop (3a)	Fuel deliv	ery characteristics	Starting f	uel delivery d
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes	rev/min	Control red travel cm ³ /1000 strokes / mm
(1) 1100	124,5 - 126,5 (122,5 - 128,5)	-	500	107,5 - 113,5 (105,5 - 116,5)	100	121,5 - 131,5 (118,5 - 134,5)
			750	113,0 - 116,0 (110,5 - 118,5)	250	= 14,4 - 15,0 mm RW 6,6 mm RW
26						

Checking values in brackets

4.85

BOSCH

Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.
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Checkin	ig of slider		Full load	speed re	gulation		Idle spe	ed regula	ation		Torque	control	
PRG che	Control rod	(1)	Setting pi rev/min 3	Control rod travel mm	Test spe Control rod travel mm 5	rev/min	Setting prev/min	Control rod travel	Test spe rev/min 9	Control rod travel mm	rev/min	Control rod	(3)
600	15,6 -	16,	4 600	16,0	11,0 4,0	1145-1160 1195-1225	1	6,0	250	min. 7,5 5,9- 6,1	-	-	
						,			370-4	110 = 2,0			

Torque-control travel on flyweight assembly dimension a

Testoil-ISO 4113

חח

Speed regulation At 1145-1160 min⁻¹

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

governor	telivery on control lever pp 40°C (104°F)	Control rod stop (3a)	Fuel deliv	ery characteristics	Starting I	fuel delivery
rev/min	cm ¹ /-1000 strokes	rev/min	rev/min	cm ¹ /-1000 strokes	rev/min	Control rod travel cm 1/1000 strokes / mm
(2) 1100	118,0 - 120,0 (116,0 - 122,0)	gen.	500 750	102,0 - 108,0 (100,0 - 110,0) 106,0 - 109,0 (104,0 - 111,0)	100 250	125,0 - 135,0 (120,0 - 140,0 9,0 - 15,0 (6,5 - 17,5)

B. Governor Settings

Checkin PRG che	g of sli <mark>der</mark> ick	1	Full load: Setting po			cifications (4)	ldle spe		cifications (5)	Torque	control
rev/min 1	Control rod travel mm 2	· ·	rev/min 3	Control rod travel mm	Control rod travel mm	rev/min		Control rod travel	Control rod travel mm	rev/min	Control rod travel mm
	,										
]									

Torque-control travel on flyweight assembly dimension a <

Speed regulation A

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

rev/min	cm³/~1000 strokes	rev/min		3, 1000			Co
1	2	100/11111	rev/min	cm³/=1000 strokes 😞	r	ev/min	cm ³ /1000 strokes / m
<u>'</u>	2	3	4	5	6	5	7
	!						
	1			1	i		Í
				ļ	- 1		
	}			!	1		
		1	1	ł			
	1	1	i	i	- 1		
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	1				- 1		
		1			- 1		
	f	1	1		1	1	

WPP 001/4 HAN 11,1 p 20 4. Edition

En

PES 6 A 95 D 410 LS 2542 RQV 250-1100 AB 1177 DL KOMD.-Nr. 0 400 846 516 (NF)
0 400 846 518 (M)

supersed 8, 8, company MAN D 2566 M/MF engine 177 kW/2200 min 1 MAN-Wr. 2-7440 (NF) 2-7441 (M)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
1100	12,0+0,1	12,5 - 12,7	0,35(0,6)			
250	5,9-6,1	0,9-1,4	0,35(0,5)			
				İ		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated Degree of	rev/min	Control rod (1a)	Intermediate Degree of	rated sp	Control rod	Lower rated Degree of	speed	Control rod	Sliding s	leeve travel
deflection of control lever	Control rod travel mm	Travei 🔾	deflection of control lever	rev/min 5	mm 4	deflection of control lever	rev/min	mm 3	rev/min	mm
·	1-	3	-	3	0	<u>'</u>	0	9	10	11
max.	1115	15,2-17,8	-	-	-	ca.13		min.8,2		0,7-0,9
ca.47	11,0 4,0 1300	1140-1150 1180-1210 0-1,0								3,4-3,8 4,9-5,4 7,6
						(3a)				

Torque control travel a = - mr

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed (2b) limitation intermediate speed	(30)		Starting Idle switchir		Torque- travel	Control rod
rev/min	cm ³ /1000 strokes .	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travei mm
1	2	3	4	5	6	7	8	9
1100	124,5-126,5. (122,5-128,5)		750 500	113,0-116,0 (110,5-118,5 107,5-113,5 (105,0-116,0		121,5-131,5 (118,5-134,5 = 14,7-15,3 mm RW 6,8 mm RW		•

Checking values in brackets

* 1 mm less control rod travel than col. 2

40

WPP 001/4 KHD 1 g 16

1. Edition

En

PES 6 A 85 D 410 RS 2591 Komb.-Nr. 0 400 876 326

RSV 325-1150 A 8 C 2194 L

supersede RHD
company BF 6 L 913
engine Schlepper DX 7.10

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,45-2,65)

mm (from BDQ) RW=9,0-12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque-control valve)
rev/min	mm (2)	cm 1/100 strokes	cm ¹ / 100 strokes	mm	cm1/100 strokes	mm
1	2	3	4	2	3	6
1200	12,4+0,1	8,4-8,5	0,3(0,45)			
325	7,4-7,6	1,0-1,6	0,2(0,4)			
	İ					
						j

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed	rev/min	Interme	diate rated	speed	(4)	Lower	rated speed	(3) 10	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min		5	6	Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
	-	3	4	3	6	/	8	9	10	11
loose	800	0,3-0,7	-	-	•	ca. 17	325	7,0	1200	12,4-12,5
10036	X =	4,0					325	7,4-7,6	500 925	13,5-13,6 12,9-13,1
ca. 54	11,4 4,0 1485	1240-1250 1320-1350 0,3-1,4					595-6	55=2,0		,.

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

29	ull-load stop	6 Rotational- speed limitat		uel delivery paracteristics	Starting t	fuel delivery 5	(a) Idle stop	
Test oil te rev/min 1	emp 40°C (104°F) cm³/1000 strokes 2	Note. changed to .) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ¹ /1000 strokes	rev/min	Control rod travel mm
1200	84,0-85,0 (82,0-87,0)	1240-1250*	-		100	17,0-17,5 mm RW	-	_

Checking values in brackets

WPP 001/4 KHD 3,0 a 1

1. Edition

En

PES 3 A 90 D 410/3 RS 2640

Komb.-Nr. 0 400 863 006

RSV 325-1150 A 0 C 2157-1 L

supersedes =

company

engine

F 3 L 913

37 kW /2300 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,5-2,6 (2,45-2,65)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque control valve)
rev/min 1	mm 2	cm7100 strokes	cm ¹ / 100 strokes 4	mm 2	cm //100 strokes	mm 6
1140	9,6-9,7	6,6-6,7	0,3(0,45)			
325	7,6-7,8	1,0-1,6	0,2(0,4)			
						ĺ

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

1 Uppe	er rated speed	I rev/min	Interme	ediate ratei	d speed	4	Lower	rated speed	(3) 10	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	800 x =	0,3-0,7 4,25	-	-	-	ca. 23	325 325	7,2	1140 500 800	9,6-9,7 9,9-10,0
ca. 23	8,6 4,0 1430	1175-1185 1230-1260 0,3-1,4					510-570	7,6-7,8 = 2,0	1040	9,9-10,0 9,7-9,9

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull load stop emp=40°C (104°F)	Rotational- speed limitat	เมอย	rel delivery aracteristics	Starting f	uel delivery 5	(da) idi	e stop Control rad
rev/min	cm ¹ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	travel mm 9
140	65,5-66,5 (63,5-68,5)	1175-1185*	500 800	50,5-52,5 (48,0-55,0) 58,5-60,5 (56,0-63,0)		13,0-13,6 mm RW	-	-

Checking values in brackets

40

WPP 001/4 EIC 3,9 h
3. Edition

En

PES 6 A 90 D 320 RS 2674

Komb.-Nr. 0 400 876 318

RSV 300-1150 AOB 2001-2 R AOC 2001-2 R supersed 84 Eicher Compan EDL 6-4/5/6 engine 109 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,2 - 2,3 (2,15-2,35)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning
rev/min 1	mm 2	cm/100 strokes	cm // 100 strokes 4	mm 2	cm //100 strokes	(torque-control valve)
1125	12,0+0,1	7,8-7,9	0,25(0,5)			
300	8,3-8,5	1,3-2,3	0,3(0,45)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	deflection travel travel mm rev/min ever 2 3		Interme	diate rated	speed	Control- leve: deflection in degrees 7 Lower rated speed Control rod travel mm m 9		Control rod travel mm	3 To	Control rod travel mm
lose	800 x =	0,3-1,0 3,0	-	***	-	ca. 14	300 100	7,9 min.19,5	-	-
ca. 39	11,0 4,0 1375	1165-1175 1205-1235 0,3-1,7					300 385-445	8,3-8,5 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill load stop emp. 40°C (104°F)	Rotational- speed limitat		uel delivery paracteristics	Starting I	uel delivery 5	4a 1d	le stop
rev/min	cm ¹ /1000 strokes 2	changed to .) rev/min 3	rev/min	cm ¹ /1000 strokes	rev/min	cm-V1000 strokes	rev/min	Control root travel mm
1125	77,5-78,5 (75,5-80,5)	1165-1175*	-	-	100	127,0-13' (124,0-14' = 19,5 - 21,0 mm	(,Q ,O)	•

Checking values in brackets

40

WPP 001/4 VAL 6.6 a

2. Edition

PES 6 A 95 D 320 RS 2684

RSV 325-1050 AOC 2178-2 R

Komb.-Nr. 0 400 876 321

supersedrs 5.84
Valmet
company 611 D
engine 79 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,5-2,6 (2,45-2,65

mm (from B) RW=9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ¹ /100 strokes 3	Difference cm ^{-/} / 100 strokes 4	Control rod travel mm	Fuel delivery cm*/100 strokes	Spring pre-tensioning (forque-control valve) mm
1050	7,9-8,0	6,5-6,7	0,35(0,6)			
325	4,6-4,8	1,3-1,7	0,35(0,5	5)		
	Í					

Adjusting the fuel delivery from each outlet according to the values in

B. Governor Settings

Uppe Degree of	r rated speed	rev/mir. Control rod	Interme	diate rated	l speed	4	Lower	rated speed	3 10	rque control
deflection of control lever	travel mm	travel mm rev/min				Control- lever deflection	rev/min	travel mm	rev/min	travel mm
1	2	3	4	5	6	in degrees 7	8	9	10	11
loose	800	0,3-0,7	-	-	-	ca. 26	325	4,2	1050	7,9-8,0
	X =	5,0							500	8,6-8,7
ca. 44		1090-1100					325 4 20-4	4,6-4,8 80=2,0	840	8,2-8,4
(2a)	4,0 1295	1135-1165 0,3-1,4					720-4	, U		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp 40°C (104°F)	Rotational- speed limitat		uel delivery naracteristics	Starting Idle	fuel delivery 5	4a) Id	e stop
rev/min	cm //1000 strokes	changed to .) rev/min 3	rev/min 4	cm ¹ /1000 strokes 5	rev/min	cm71000 strokes	rev/min 8	Control rod travet mm
1050	65,0-67,0 (63,0-69,0)	1090-1100*	500	57,0-60,0 (54,5-62,5)	100	19,5-21,(anm RW		-

Checking values in brackets

WPP 001/4 FIA 5,5 p

1. Edition

En

PES 6 A 80 D 410 RS 2697 Komb.-Nr. 0 400 846 541 RQV 300-1350 AB 1175-1 L

companyiat engine 8060, 24.642

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Testoil-ISO 4113

	 		; RW = 9		
travel	, i	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
2	3	4	2	3	mm 6
12,7+0,1	7,5-7,6	0,25(0,4)			
8,1-8,3	0,9-1,5	0,2(0,35)			
	Control rod a travel mm 2 12,7+0,1	mm cm ³ /100 strokes 3 12,7+0,1 7,5-7,6	Control rod Fuel delivery mm cm³/100 strokes 2 12,7+0,1 7,5-7,6 0,25(0,4)	Control rod of travel mm cm³/100 strokes 2 12,7+0,1 7,5-7,6 Difference Control rod travel mm 2 0,25(0,4)	Control rod Fuel delivery Difference Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel Control rod travel

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed	1	Intermediat	e rated sp	eed	Lower rated	speed		Sliding	sleeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	mm	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	rev/min	
max.	1420	15,2-17,	8 -	-	-	ca., 14		min. 9,7		0,2-0,5
ca. 60	11,7 4,0 1650	1390-140 1530-156 0 - 1,0				350-450	900			3,0-3,4 5,2-5,4 9,7
						(3a)				

Torque control travel a = 0 m

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel delic high idle s	very characteristics 5a speed 5b	Starting Idle switching		Torque travei	Control rod
rev/min 1	cm³/1000 strokes	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
LDA 1350	0,7 bar 75,0-76,0 (73,5-77,5)	1390-1400 *	LDA 800	0,7 bar 69,0-71,0 (67,0-73,0)	100	115,0-125,0 (112,0-128,0)	1350 500	9 12,7+0, 12,7+0,
			LDA 500	0 bar 43,0-45,0 (41,5-46,5)				

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

FIA 5,5 p

. 2 -

Test at n =

500

rev/min decreasing pressure ~ in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PESS 6 ARS 2697 +RQV AB 1175-1L	0,70	0 0,38 0,33	12,7-12,8 10,9-11,0 12,2-12,3 11,4-11,6
•			

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

WPP 001/4 FOR 4,4 a

1. Edition

PES 4 A 95 D 410 RS 2699

RS 350/1400 A2B 2149-1 L

Komb.-Nr. 9 400 085 237

Ford company FTO 4,4 L engine 68 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3,10-3,30)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre tensioning (torque-control valve)
rev/min	mm 2	cm //100 strokes 3	cm ¹ / 100 strokes 4	mm 2	cm#100 strokes	mm 6
1400	9,2-9,3	5,7-5,9	0,35(0,6)			
350	6,4-6,6	0,9-1,3	0,35(0,55	}		

Adjust the fuel delivery from each outlet according to the values in .

B. Governor Settings

1 Uppe	r rated speed	rev/min	Interme	diate rated	speed	(4)	Lower	rated speed	(3) 10	rque controì
Degree of deflection	travel	Control rod travel				Control- lever		Control rod travel		Control rod travel
of control lever 1	mm 2	nım rev/min 3	4	5	6	deflection in degrees 7	rev/min 8	mm 9	rev/.nin	11
loose	800	0,3-1,0	-	-	-	FH ca.3	350	6,5	1400	9,2-9,3
	X =						280	7,4-8,0	500	10,1-10,2
FH max. VH ca.63		1445-1455 1510-1540 0,3-1,7					450 550 1450	3,8-4,6 max. 3,0 max. 2,0		9,8-10,0 9,3-9,6

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop	6 Rotational- speed limitat	11361	uel delivery naracteristics	Starting tidle	luel delivery 5	(4a) ld	e stop
rev/min	cm / 1000 strokes	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm
1400	57,0-59,0 (55,0-61,0)	1445-1455*	500 1000	53,5-56,5 (51,5-58,5) 67,0-70,0 (65,0-72,0)	100	112,0-122, = 19,0- 21,0 mm R		-
			1000					

Checking values in brackets

WPP 001/4 MWM 5,9 c

1. Edition

PES & A 90 D 320 RS 2701

RSV 350-1150 A2B 2097-1R

supersedes:

Komb.-Nr. 9 400 085 239

company MWM

TD 229-6 135 PS

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,60-2,80)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference cm ^{1/} 100 strokes	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
1	2	3	a ·	2	3	6
1150	9,8-9,9	7,1-7,2	0,3 (0,5)			
350	5,9-6,1	1,1-1,5	0,25(0,45)			
j .						

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

1 Uppe	er rated speed		Interme	diate rate	d speed	(4)	Lower	rated speed	(3) to	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
			-	15		<u> </u>		3		
loose	800	0,3-1,0	-	-	-	¢a. 22	350	5,5	1150	9,8-9,9
	X =						100	min.19,0	500	10,4-10,5
ca. 48	8,8 4,0 1350	1190-1200 1240-1270 0,3 - 1,7					350 570-63	5,9-6,1 0 = 2,0	700 950	10,3-10,6 10,0-10,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp=40°C (104°F)	Rotational- speed limitat Note. changed to .)	11.301	uel delivery naracteristics	Starting tidle	luel delivery 5	(4a) tdi	e stop Control rod
rev/min 1	cm //1000 strokes 2	rev/min	rev/min 4	cm ¹ /1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	travel mm 9
	70,5-71,5 (68,5-73,5)	119,0-1200*	500 700	62,5-64,5 (60,0-67,0) 67,5-69,5 (65,0-72,0)	100	19,0-21,0 mm RW	-	-

Checking values in brackets

40

WPP 001/4 MWM 3,9 a

1. Edition

En

PES 4 A 90 320 RS 2702 RSV 350-1150 A 2 B 2129-4 R Komb.-Nr. 9 400 085 240

companyMWM engine D 229-4 75 PS

All test specifications are valid for Bosch Fue! Injection Pump Test Benches and Testers

A. Fuel Injection Pupp Settings

Port closing at prestroke

(2,60-2,30)

mm(trom BDC); RW = 9,0 - 12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm1/100 strokes	cm ¹ / 100 strokes	mm	cm / 100 strokes	mm 6
1150	8,6-8,7	5,9-6,0	0,3 (0,5)	-		
350	5,9-6,1	1,1-1,5	0,25(0,45)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection	r rated speed Control rod travel	Control red travel	Intermed	liate rateu	speed	Control- lever		rated speed Control rod travel		rque control Control rod travel
of control lever 1	mm 2	mm rev/min 3	4	5	6	deflection in degrees 7	rev/min 8	mm 9	rev/min 10	mm 11
loose	800	0,3-1,0	-	-	-	ca. 23	350	5,5	1150	8,6-8,7
	x = 3	3,75					100 350	min.19,0	500	9,8-9,9
ca. 46	4,0	1190-1200 1225-1255 0,3 - 1,7					590-650	5,9-6,1 = 2,0	800 1000	9,4-9,6 9,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Fu	ill-load stop	6 Rotational-speed limitat	11.36	uel delivery naracteristics	Starting Idle	fuel delivery 5	(4a) Idi	e stop
Test oil te	cm ¹ /1000 strokes	Note. changed to) rev/min	rev/min	cm/1000 strokes	rev/min	cm ¹ /1000 strokes		Control rod travel mm
1	2	3	4	5	6	/	8	9
1150	59,0-60,0 (57,0-62,0)	1190-1200*	500	59,5-61,5 (57,0-64,0)	100	19,0-21,0 mm RW	-	-
		·	800	64,0-66,0 (61,5-68,5)				

Checking values in brackets

40

WPP 001/4 MWM 2, 9 a

1. Edition

En

PES 3 A 90 D 320 RS 2703 Komb.-Nr. 9 400 085 241

RSV 350-1150 A 2 B 2129-4 R

company D 229-3

engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,65-2,75 (2,60-2,80)

mm (from BDC) RW = 9,0-12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
1150	8,6-8,7	5,9-6,0	0,3 (0,5)			
350	5,9-6,1	1,1-1,5	0,25(0,45))		
				3		

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

1 Uppe	er rated speer		interme	diate rate	speed	(4)	Lower	rated speed	(3) To	rque control
Degree of deflection of control lever	travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm 11
loose	800 x = 3	0,3-1,0 ,75	-	-	-	ca. 23	350 100	5,5 min.19,0		8,6-8,7 9,8-9,9
ca. 46		1190-1200 1225 - 1255 0,3 - 1,7				-	350 590-65	5,9-6,1 0 = 2,0	800 1000	9,4-9,6 8,8-9,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp 40°C (104°F)	6 Rotational- speed limitat		uel delivery paracteristics	Starting Idle	luel delivery 5	(4a) Idle stop	
rev/min	cm ¹ /1000 strokes	Note changed to .) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm71000 strokes	rev/min 8	Control rod travel mm
1150	59,0-60,0 (57,0-62,0)	1190-1200*	500	59,5-61,5 (57,0-64,0)	100	19,0-21,0 mm RW) -	_
			800	64,0-66,0 (61,5-68,5)				

Checking values in brackets

WPP 001/4 MWM 5.9 b

1. Edition

En

PES 6 A 90 D 320 RS 2705 Komb.-Nr. 9 400 085 246

RSV 350-1400 A 2 B 2179-1 R

supersed(5 MWM company A 229-6 PID

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,8-2,9

Port closing at prestroke

Testoil-ISO 4113

(2.75-2.95)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm³/100 strokes	cm ¹ / 160 strokes	mm	cm 1/100 strokes	mm
1	2	3	4	2	3	6
1400	10,3+0,1	8,6-8,7	0,3 (0,5)			
325	6,4-6,6	1,3-1,7	0,25(0,45)			
		†		1		

Adjust the fuel delivery from each outlet according to the values in .

B. Governor Settings

1 Uppe	r rated speed	d revirain	emre:in1	diate rated	speed	4	Lower	rated speed	(3) To	rque control
Degree of deflection of control lever	Control rod travel mm	Confeul rod travet mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	800 X =	0,3-1,0	-	**	-	ca. 18	325 100	6.0 min. 19,0		10,3-10,4 11,0-11,1
ca. 62	9,3 4,0 1600	1440-1450 1515-1545 0,3-1,7					325 430-4	6,4-6,6 90 = 2,0	900	10,7-11,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(20)	ill-load stop	6 Rotational- speed limitat	uel delivery paracteristics	Starting (fuel delivery 5	4a Idle stop		
Test oil to	emp_40°C (104°F) cm³/1000 strokes	Note: changed to) rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
1400	85,5-86,5 (83,5-88,5)	1440-1450*	500	87,0-89,0 (84,5-91,5)	100	19,0-21, mm RW	0 325	4,25
			900	90,0-92,0 (87,5-94,5)				
				(07,0-34,0)				

Checking values in brackets

* ! mm less control rod travel than col 2

C9

40

WPP 001/4 CAS 8,3 a

2. Edition

PES 6 A 100 D 420 LS 3024

US-EP/RSV 375-1100 A2B 2062 DR

Komb.-Nr. 9 400 230 018

company A-504 BDT engine 210 PS s

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1)

2,0-2,1 (1,95-2,15)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm //100 strokes	cm ⁻¹ / 100 strokes 4	mm 2	cm ¹ /100 strokes	mm 6
1100	11,6+0,1	14,0-14,2	0,3 (0,6)			
375	6,5 - 6,6	1,8-2,4	0,3 (0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	Control rod travel mm	d rev/min Control rod travet mm rev/min	Intermediate rated speed			Control- lever deflection in degrees	Lower rev/min	rated speed Control rod travel mm	3 Forque control Control rod travel rev/min mm		
loose ca. 50	800 x = 10,6 4,0 1260	0,3-1,0 1140-1150 1205-1235 0,3-1,7	-	J	-	ca.23	375 100 375 410-470 800	6,0 min. 19,0 6,4 - 6,6 = 2,0 max. 1,0	1100 700		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull load stop lemp 40°C (104°F)	Rotational speed limitat		Fuel delivery characteristics		Starting fuel delivery 5 4a :dle		
rev/min	i	changed to) rev/min 3	rev/min 4	cm ¹ /1000 strokes 5	rev/min 6	cm71000 strokes 7	rev/min 8	Control rod travel mm 9
1100	139,5-141,5 137,5-143,5)	1140-1150*	700 600	142,0-148,0 (140,0-150,0) max. 158,0 (max. 150,0)	100	130,0-150 = ca. 17, mm RW		6,5

Checking values in brackets

WPP 001/4 KHD 16,0 c 1 1. Edition

En

PE 12 AM 80 C 610 RS 2005

RQV 200-1150 AB 479 DL

supersedes company KHD F 12 L 714 A

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Port closing at prestroke 2,15-2,25 mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1000	12,0	7,4 - 7,8	0,4			
1000	9,0	3,9 - 4,7				
1000	15,0	10,3 - 11,4				
200	9,0	2,8 - 3,6				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed		Intermediate	rated sp	eed	Lower rated	speed		Cliding	lague travel
deflection	rev/min Control rod travel mm	Control rod (1a) travel mm rev/min (2a)	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	leeve travel
-	2	3	4	5	6	7	8	9	10	11
ca.66	1150 1180 1240 1300 1370	15,0-18,0 11,8-15,5 5,5-10,6 0-6,0 0		-	-	ca.10	300	7,0-7,6 4,3-6,6 2,6-3,4 1,2-2,6	1150	8,3
						(3a)				

Torque control travel a = 1,5 m

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		intermediate speed		Fuel deliv	rery characteristics 5a peed 5b	idie			-control 5
rev/min	cm³/1000 strokes .	rev/min	40)	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
 	2	3		4	5	6	7	8	9
1130	71,5-73,5 (70,5-74,5)	1160-1180	*	600 800	74,0-77,0 (72,5-78,5) 75,5-78,5 (74,0-80,0)	100	min. 99,0	800	0 0,3-0,5 0,7-0,9 1,2-1,4 1,4-1,6

Checking values in brackets

* 1 mm less control rod travel than col. 2

①

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 VOL 6,0 j

4. Edition

estoil-ISO 4113

PES 6 MW 100/320 RS 1004 RQV 300...1150 MW 8 / 2R 1-5-3-6-2-4 0-60-120-180-240-300 ± 0,5° (0,75°) supersette 82 compan 101 vo engine. TD 60

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke	(2,75-2,95) mm (from BDCbei Regelweg = 9-12 mm								
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)				
rev/min 1	mm 2	cm ³ /100 strokes 3	100 strokes	mm 2	cm ³ /100 strokes	mm 6				
1000	11,3+0,1	9,15-9,35	0,35(0,6)							
300	5,2-5,4	0,95-1,35	0,35(0,55)						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed		Intermediate	e rated sp	eed	Lower rated	speed	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod (1a) travel mm rev/min (2a) 3	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8 9	rev/min mm
max.	1150 1400	15,2-17,8 0-1,0	-	~	-	ca. 11	100 min. 7,0 300 5,2-5,4	300 1,1-1,2 800 4,3-4,6
ca. 50	10,3 4,0	1190-1200 1235-1265					370-430 = 2,0	1190 9,2
						3 a)		

Torque control travel a =

mп

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (2b) limitation intermediate speed			Starting Idle switching		Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strakes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1000	91,5-93,5 (89,5-95,5)	1190~1200 *			300	20-29 mm RW 120,0-130,0 (117,0-133,0) 9,5-13,5 (7,0-16,0)	1	

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 VOL 4,5 b

3. Edition

PES 4 MW 100/320 RS 1102

RQV 300-1100 MW 39

supersedes 8.83

Volvo-BM

TD 45 engine: 85 kW (116 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

0 403 444 101

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,0+0,1	10.0-10.2	0.35(0.6			
300	6.4-6.5	0.95-1.35	0.35(0.5	5)		
1000	12,0+0,1		0.55(0.7			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		Sliding	leeve travel
deflection of control	rev/min Control rod travel	travel (a)	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Sildings	1
lever	mm	rev/min (2a)	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1100	15.2-17.8				ca.11	300	6,4-6,5		
	1350	0 - 1.0					100	min.8,0		
ca. 46	11,0 4,0	1140-1150 1190-1220				(3a)	380-4	40 = 2,0		

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil ten		Rotational-speed (2b) limitation intermediate speed	(30)		Starting Idle switching		Torque- travel	control 5
rev/min	cm³/1000 strokes .	rev/min 4a	rev/mir:	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travei mm
!	2	3	4	5	6	7	8	9
700	100-102 (98,0-104.0	1140-1150*)	1000	101,0-105,0 (99,0-107,0)	300	min. 140,0 9,5-13,5 (7,0-16,0) 20 (80-250)		

Checking values in prackets

1 mm less control rod travel than col. 2

①

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 4,5 d

2. Edition

101-150 4113

PES 4 MW 100/320 RS 1102 RQV 300-1200 MW 39-2 0 403 444 104

superseges83 companyolvo engine TD 45 82,5 kW (112 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	streke	2,80-2,90 (2.75-2.95)	inm (from BDC)	W 9,0-12	,0	
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes	mm 3	cm ³ /100 strokes	mm 6
700	11,8+0,1	9,5-9,7	0,35(0.6)			
300	6,5-6,6	1,3-1,7	0,35(0,55)		
1000	11,8+0,1		0,55(0,7)		Ì	
			[•	!

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed	4	Intermediate	rated sp	eed	Lower rated	speed		Cli din n	
deflection of control	rev/inin Control rod travel	Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Sliaing s	deeve travel
lever	mm 2	rev/min (2a)	lever 4	rev/min 5	mm (4)	lever	rev/min		rev/min	mm
max.	1200 1450	15,2-17.8 0-1,0				ca. 12	100	min.8,1 6,5-6,6	10	11
ca. 48	10,8 4,0	1240-1250 1290-1320					400-	550=2,0		
						(3a)		ñ		

Torque control travel a =

mm

C. Settings for Fuei Injection Pump with Fitted Governor

Full-load of Control-ro Test oil te		Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle :	very characteristics 5a speed 5b	Starting Idle switching		Torque- travel	control (5)
rev/min 1	cm ³ /1000 strokes .	rev/min 4a	rav/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
700	95,0-97,0 (93,0-99,0)	1240-1250*	1000	94,0-98,0 (92,0-100,0)	100	19-21 mm RW max. 140 (143)	Ü	
					100-2	220 (80-250)		·

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 VOL 4,5 f

En 2. Edition

Testoil-ISO 4113

PES 4 MW 100/320 RS 1102

RQV 300-1100 MW 39-4

supersedes 84

0 403 444 106

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1-3-4-2 $0-90-180-270 \div 0,50(0,75)$

company 250 engine: 11 45

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	(2.75-2.95)	mm (from BDC)	RW = 9.	0-12,0 mm	
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	11,7+0,1	9,4-9,6	0,35 (0,6)		
300	6,4-6,5	1,3-1,7	0,35 (0,5	5)		
1000	11,7+0,1		0,55 (0.7)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediat	e rated sp	eed	Lower rated	speed	ntermediate rated speed Lower rated speed					
deflection	rev/min Controi rud travei mm 2	Control rod (18 mm (28 min) (28 min	of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev!min	Control rod travel mm 3	rev/min	mrn			
max.	1 150 1 350	15,2-17.8 0 - 1.0	3			ca.12	300 100	6,4-6,5 min.8,0					
ca. 48	10.7 4.0	1140-1150 1195-1225	1			320-6	50						

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (2b) limitation intermediate speed	(30)		Starting Idle switching		Torque- travel	Control rod
rev/min	cm³/1000 strokes .	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/mia	cm³/1000 strokes	rev/min	travel mm
<u> </u>	2	3	4	5	6 -	7	8	9
700	94,0-96,0 (92,0-98,0)	1140-1150*	1000	96,5-99,5 (95,0-101,0)				
ĺ					100	130,0-140,0		
l						(127,0-143,0)		
					300	13,0-17,0		
						(10,5-19,5)		
L					_100~	220 (80-250)		

Checking values in brackets

WPP 001/4 VOL 4,5 e

3. Edition

Stoll-150 4113

PES 4 MW 100/320 RS 1102 RQV 300-1100 MW 39-5 supersed 6.84 0 403 444 107 company 01 vo engine D 45 0-90-180-270 ± 0,50 (0,75)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke	2,80-2,90 [2,75-2,95]	mm (from BDC)	ei RW =	9.0-12.0 mm	
Rotational speed		Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm ³ / 100 strokes	mm 2	cm ³ /100 strokes	mm 6
-	2	3	0.05/0.5			
700	12,6+0,1	11,1-11,3	0,35(0,6)			
300	6,4-6,5	1,3-1,7	0,35(0,55)		
1000	12,6+0,1		0,55(0,7)	1		
					}	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed	t		Sliding s	leeve travel
deflection	Control rod travel	travel (a)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever 7	rey/min	Control rod travel mm (3)	rev/min 10	mm 11
max.	1100 1350	15,2-17,8 0-1,0				ca. 14		6,4-6,5 min.8,0			
ca. 48	11,6 4,0	1140-1150 1210-1240					320-4	150			
İ						(3a)					

Torque contro! travel a =

mn

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	d stop np. 40°C (104°F) 2	limitation intermediate speed	(55)		Starting Idle switchin		Torque- travel	Control 5 Control rod travel
rev/min	cm³/1000 strokes	rev/min	rev/min	cm*/1000 strokes	6	7	A	9
1	2	3	 	-				
700	109,0-111,0 (107,0-113,0)	1140-1150*	1000	110,0-114,0 (108,0-116,0)		130,0-140,0 (127,0-143,0)		
					300	13,0-17,0 (10,5-19,5)		
					100-	220 (80-250)		

Checking values in brackets

40

WPP 001/4 VOL 6,0 r

2. Edition

En

Testoil-ISO 4113

PES 6 MW 100/320 RS 1111 RSV 325-1400 MW 2 A 314

0 403 476 016

supersed 5.83
company VOI VO
TAMD 60 C
184 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

3,10-3,20 (3,05-3,25)

mm (from BDCRW 9,0-12,0

Rotational speed rev/min	Control rod travel	Fuel delivery	Difference cm ⁻¹ / 100 strokes	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
1000	13,0-0,1	12,1-12,3	0,35(0,6)			
325	5,6-5,7	0,95-1,35	0,35(0,55)			
1400	13,0+0,1		0,5 (0,7)			
1000	10,5+0,1					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1) Uppe	er rated speed		Intermediate rated speed			Lower rated speed			3 Torque control		
Degree of deflection of control lever	control rod travel mm	Control rod travel mm rev/min		6	6	Control- lever deflection in degrees	tev/min	Control rod travel mm		Control rod travel mm	
-	-	3	 	5	6		8	9	10	11	
loose	800	0,3-1,0				ca. 22	325	5,1-5,2	350	13,5+0,1	
	X =	2,75					325	5,6-5,7	500	13,5+0,1	
	1440-14 1505-15	50 = 12,0 35 = 4,0					100	min.19,0			

The numbers denote the sequence of the texts

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp_40°C (104°F)	Rotational- speed limitat	1 5 4 3 4 3	uel delivery naracteristics	Starting lidle	fuel delivery 5	(4a) Idi		
rev/min	cm ¹ /1000 strokes	changed to3 rev/min	rev/min	cm 11000 strokes	rev/rnin	cmV1000 strokes	rev/min B	Control rod travel mm	
LDA 1000	0,8 bar 121,0-123,0 (119,0-125,0)	1440-1450*	LDA 1400 LDA 1000	(117,0-125,0) 0 bar 83,0-85,0	100 325	130,0-140, 127,0-143, 9,5-13,5 (7,0-16,3	9)	5,6-5,7	

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

Testain =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = ba	Gauge pressure = bar	mm (1)
RS 1111 mit RSV314	0.8 bar	0 bar 0,48 bar 0,18 bar	13,0-13,1 10,5-10,6 12,4-12,5 11,1-11,2

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 DAF 11.6 t 6

2. Edition

PE 6 P 100 A 320 RS 384-1

Komb.-Nr. 0 401 846 465

RQ 225/1000 PA 571

supersedes7.84 DAF

company:

DKDL 1160 enaine

125 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

		(3, 13-3, 33)				
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve) mm
600	11,4+0,	9,8-10,0	0,35(0,6			
250	7,5-7,7	0,9-1,3	0,35(0,5	5)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	Control rod travel	Full-load s Setting po rev/min 3		_	rev/min	Idle spec Setting p rev/min 7	Control rod travel		cifications 5 Control rod travel mm	Torque (rev/min 11	Control rod (3) travel mm
550	15,6-16,4	550	16,0	9,6 4,0 1250	1045-1060 1100-1130 0-1,0		7,6	100 250 345-	min,8,4 7,5-7,7 885=2,0	1000 820	11,4-11,5 10,6-10,8 11,0-11,2 10,8-11,1

Torque-control travel

1045-1060 min⁻

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	3 b	Starting f	uel delivery d G Control
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	cm ³ /1000 strokes:/ mm
600	98,0-100,0 (96,0-102,0)	600	1000	93,0-97,0 (90,5-99,5)		250	180,0-220,0 (176,0-224,0) = 19,5-21,0 mm RW 9,0-13,0 (6,5-15,5)

Checking values in brackets

05.85

BOSCH

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WPP 001/4 MAN 11,1 q 6

5. Edition

tropicalized version

PES 6 P 120 A 720 LS 388

RQ 250/1100 PA 452

En

Komb.-Nr. 0 402 046 195 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

supersed 1 - 85 company MAN engine D 2566 MK (F) 235 kW (1)

D 2566 MKF-Tropen 224 kW (2) MAN-Nr. 1-7980

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC) ZV1. 6 : RW=9.0-12.0 mm

		(2,90-3,13)		,	11-7,0-12,0 III	
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
750	13,1+0,	1 21,7-22,0	0,5(0,9)			
250	6,3-6,	5 1,1-1,7	0,8 (1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1)

Checkin PRG che rev/min 1	ck 1 Control rod I travel			gulation Test spec Control rod travel mm 5	cifications rev/min 6	4)	Idle spec Setting p rev/min 7	_		ccifications 5 Control rod travel	Torque o	Control rod (3)
600 VH =	19,2-20,8 max. 46	600	20,0	10,3 4,0 1400	1185-	1160 1215 1,0	250	6,4	250	min. 7,9 6,3-6,5 90 = 2,0	750 865 975	11,3-11,4 13,1-13,2 12,7-12,9 11,7-12,0
	ontrol travel	sion a =	,7	mm		Spe	ed regula	1 f	145-11	60 min ⁻¹		1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 49°C (104°F)	Control rod stop (3a)	Fuel deliv	ery characteristics	Starting f	
rev/min 1	cm ³ /-1000 strokes 2	rev/min	rev/min	cm ³ /~1000 strokes	rev/min	Control 7.4 travel cm ³ /1000 strokes/ mm
LDA	1,0 bar		LDA	1,0 bar	100	205,0-225,0
750	217,0-220,0		650	208,0-213,0	1.00	(201,0-229,0)
	(214,0-223,0)			(205,0-216,0)		(201,0 225,0)
1100	180,0-185,0		LDA	0,34 bar		
	(177,0-188,0)		500	145,0-150,0		
(1)			ĺ	(142,0-153,0)		
			LDA	0 bar		
			500	101,0-104,0		
				(98,0-107,0)		

Checking values in brackets

4.85

Checkin	g of slider	Full load	as beed	aulation	_	ldle spe	ed regula	ation	_	Torque d	control
PRG cho	Control rod Control rod Itravel	Setting po	Eantrol end travel	Test spec Control rod travel	cifications (4)) Setting (Control rod travel	Test spe	cifications (5) Control rod Itravel		Control rod (3)
rev/min 1	mm 2	revimin 3	1 mm	mm 5	rev/min = 6	rev/min 7	mm 8	rev.min	mm 10	rev-min	mm 12
600 VH =	19,2-20,8 max. 46°	600	20,0	10,3 4,0 1400	1145-1160 1185-1215 0 - 1,0	5	6,4	250	min. 7,9 6,3-6,5 390 = 2,0	750 865	11,3-11,4 13,1-13,2 12,7-12,9 11,7-12,0

Torque control travel on flyweight assembly dimension a

0,7

Speed regulation 1145-1160 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	relivery on control lever np 40 C (104 F)	Control rad stop	fuel deliv	ery characteristics 3b	Starting t	uet delivery
rev/min	cm ⁴ /-1000 strokes 2	rev/min 3	rev/min 4	cm ¹ /-1000 strokes	rev/min	om 1/1000 strokes / mm
(2) LDA 750 LDA 1100	1,0 bar 207,0-209,0 (203,0-213,0) 1,0 bar 171,0-177,0 (169,0-179,0)	-	LDA 650 LDA 500 LDA 500	1,0 bar 196,0-202,0 (194,0-204,0) 0,34 bar 141,0-147,0 (139,0-149,0) 0 bar 97,0-99,0	100	205,0-225,0 (201,0-229,0)

Checking values in brackets

Testoil-ISO 4113

D. Adjustment Test for Manifold Pressure Compensator

Test at n = 500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure - bar	Gauge pressure - bar	mm (1)
PES 6 P LS 388 + RQ PA 452	1,0	0 0,34 0,61	13,1-13,2 9,4-9,5 10,9-11,0 12,5-12,9

Notes

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

WPP 001/4 VOL 7,0 q 1 2. Edition

PE 6 P 110 A 320 RS 413 Z Vemb.-Hr. 0 401 846 433

RQV 250-1200 PA 499

supersede🛊 🥱 ូ ೧၅ company VOIVO engine TD 70 G 155 kW (210 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Control rod	(,95-3,15)	7.44	T		1
travel		cm ³ /	travel		Spring pre-tensioning (torque-control valve)
2	3	4	2	3	mm 6
11,2+0,1	10,3-10,5	0,4(0,8)			
5,2-5,4	1,6-2,0	0,3(0,6)			
			j		
	mm 2 11,2+0,1	mm cm ³ /100 strokes 3 11,2+0,1 10,3-10,5	Control rod travel mm	Control rod travel	Control rod travel

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated:	speed			Intermediate	rated sp	eed		Lower rated	speed			G1: 4:-	
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 3	(1a) (2a)	Degree of deffection of control lever	rev/min 5	Contro travel mm 6	ol rod	Degree of deflection of control lever	rev/min 8	Control r travel mm 9	od 3	rev/min	mm
max. ca.62	10,2	15,2-17 1240-129 1360-13 0 - 1,0	50 90	-	-			ca. 9 300-410	100 250	min. 5,2-		530	0,6-0,8 3,1-3,5 5,6-5,9 7,9

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (2b) limitation intermediate speed	Fuel delightightide s	Fuel delivery characteristics 58 Starting fuel deliver high idle speed 5b switching point			Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
	2	3	4	5	6	7	8	9
LDA 700	0,7 bar 103,0-105,0 (100,0-108,0)	1240-1250*	LDA 700			17 0,0-21 0,0 = 20,0-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

VOL 7,0 g 1 - 2 -

Test at n = decreasing pressure = in bar gauge pressure
500

Pump/governor	Setting	Measurement	diminution Control rod travel- difference		
	Gauge pressure = bar	Gauge pressure = bar	mm (1)		
PE6 PRS 413 Z +RQV PA 499	0,70	0 0,38 0,17	11,2-11,3 9,6-9,7 11,0-11,1 9,7-9,9		

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

WPP 001/4 VOL 12,0 g 3 1. Edition

PE 6 P 120 A 320 RS 3075 Komb.-Nr. 0 401 876 741 Values only apply to test nozzle-and-holder

RSV 200-1100 P 1/421-1

supersedes Volvo company TID 121 K engine

280 kW

assembly 1 688 901 019 and fuel-injection test

tubing 1 680 750 0 67

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.55 - 2.75)

mm (from SDC)

Rotational speed	Control rod travel	First devicery	La thrence	Control red travel	Fuel delivery	Spring pre-tensioning (torque control valve)
rev/min 1	mm 2	cm1/100 strokes	cm ^{-/} 100 strokes 4	mm 2	cm 1/100 strokes	mm 6
700	11,4+0,1	22,9 - 23,1	0,5(0,9)			
200	5,6-5,8	2,3 - 2,9	0,8(1,2)			7
						70

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated speed rev/min			Intermediate rated speed			(4)	Low	er rated speed	(3) To	orque control	
Degree of deflection of control lever 1	travel mm	Control rod travel men rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/rain 8	Control rod travel mm	rev/min	Control rod travel mm	
loose	800	0,3-1,7	-	**	-	ca.20	200	5,2] -	-	
	x = 4	,0				İ	200	5,6-5,8			
ca.58	10,4 4,0 1340	1140-1150 1165-1195 0,3-1,7					255 -	315 =2,0			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull load stop ernp 40°C (104°F)	6 Rotational- speed limitat	11.00	uel delivery naracteristics	Starting t	fuel delivery 5	4a) Idle stop	
rev/min	cm ¹ /1000 strokes	Note changed to) rev/min 3	rev/min 4	cm³/1000 strokes	rev/min	cm/1000 strokes		Control rod travel mm
700	229,0 - 231,0 (226,0~234,0)	1140-1150*	-	-	-	-	-	-

Checking values in brackets

WPP 001/4 MAN 11,9 a
4. Edition

En

PES6 P 120 A 720 LS 470 RQ 250/1100 PA 684 Komb.-Nr. 0 402 046 288 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67

supersede 9 • 84

company
MAN
D 2866 KF

265 kW/2200 min⁻¹
MAN-Nr. 2-7355

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

 $2,8^{\circ} - 2,9$ (2,75-2,95)

mm (from BDC) Zy1.6; RW = 9,0-12,0 mm

		(-)				
Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
	["""	Cin 7100 strokes	100 strokes	mm	cm ⁻ /100 strokes	mm
1 .	2	3	4	2	3	6
750	12,5+3,	23,8-24,0	0,5(0,9)			
250	5,2-5,4	1,2-1,8	0,8(1,2)			
	1					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider	Full-load s		_	cifications (4)	Idle spe	ed regula		cifications (5)	Torque o	control 3
rev/min 1	Control rod travel	rev/min 3	Control rod travel room 4	Control rod travel mm 5	rev/min	rev/min	Control rod travel	rev/min 9	Control rod	rev/min t 1	Control rod travel
600 VH =	19,2-20,8 = max. 46°	600	20,0		1145-1160 1180-1210 0-1,0	250	5,3	250	min.6,8 5,2-5,4 55 = 2,0	1100 935	12,5-12,6 11,3-11,4 12,4-12,6 11,7-12,0
	ontrol travel		0,4	5			11	45-11	60 min-1		1 mm less contro

on ligweight assembly dimension a = mm Speed regulation: At

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop	3 a)	Fuel deliv	ery characteristics	つにい	Starting f	
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3		rev/min 4	cm ³ /-1000 strokes		rev/min 6	Control red travel cm ³ /1000 strokes/ mm
LDA 750 LDA 1100	1,0 bar 238,0-240,0 (235,0-243,0) 1,0 bar 214,0-218,0 (211,0-221,0)	-		LDA 650 LDA 500 LDA 500	1,0 bar 239,0-245,0 (236,0-248,0) 0,4 bar 191,0-197,0 (188,0-200,0) 0 bar 139,0-141,0 (136,0-144,0)		100	225,0-245,0 (221,0-249,0)

Checking values in brackets

rod travel

MAN 11,9 a

Pump/governor	Setting	Measurement	Control rod travel- difference
	Gauge pressure =	bar Gauge pressure =	bar mm (1)
PE6PLS470 + RQPA684	1,0	0	12,5 - 12,6
+ NQ::1 NOO4		0,40	9,3 - 9,4 11,1 - 11,2
		0,11	9,4 - 9,7
		,	

Notes

(1) when n =

rev/min and gauge pressure =

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 15,8 f

5. Edition

ROV 300-1150 PA 549 PE 10 P 110 A 920/5 LS 3073

Komb.-Nr. 0 401 849 703

1-10-9 - 4- 3 - 6 - 5 - 8 - 7 - 2 $0-27-72-99-144-171-216-243-288-315 \circ \pm 0.5 \circ (\pm 0.75 \circ)$

supersedes3_84 company: KHD

BF 10 L 413 F 265 kW/2050 min-1

bzw. 259 kW (Maxidyne)

All test specifications are valid for Bosch Fuel Injection Fump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,0+0,1	14,4-14,6	0,4(0,75)			
300	6,9-7,1	1,8-2,4	0,4(0,7)			•

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		Stidings	leeve travel
Degree of deflection of control	rev/min Control rod travel	Control rod ta travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		1
lever	mm	rev/min (2a)	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1220	15.2-17,8	-	-	-	ca. 24	100 300	min. 8,4 6,9-7,1	250 550	0,5-0,8 3,6-4,2
1	9.8 4.0 1400	1190-1200 1270-1300 0 - 1,0						25 = 2,0		5,6-4,2 5,4-5,7 7,8
						(3a)				

Torque control travel a = 1,3

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten	d stop np. 40°C (104°F) 2	Rotational-speed limitation intermediate speed	high idle s	very characteristics 5a	idle switchir	. 0	Torque travel	Control 5 Control rod travel
1_	2	3	4	5	6	7	8	9
LDA 700	0,9 bar 144,0-146,0 (141,0-149,0)	1190-1200	LDA 500	0 bar 98,0-102,0 (95,0-105,0)	100	130,0-160,0	700 150 050 025	2,0+0,1 0,7+0,2 1,2+0,2 1,5+0,2

Checking values in brackets

* 1 mm less control rod travel than col. 2

KHD 15,8 f

- 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	dimifution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 10 P LS 3073	0,90		12,0-12,1
+ RQV PA 549		0	10,0-10,1
		0,50	11,5-11,6
		0,35	10,4-10,6
			,

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

En

Test Specifications Fuel Injection Pumps (2) and Governors

40

WPP 001/4 PEN 12,0 g

1. Edition

Εn

PE 6 P 120 A 320 RS 3075 RQ 750 PA 694 Komb.-Nr. 0 401 846 786 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67 supersedes

company Volvo

engine:

Volvo-Penta TD 120 BHC/BRC

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

15.44 And 10.44 10.00

(2,55-2,75)

mm (from BDC)

Rotational speed rev/min	Control rod travel • mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	9,8-9,9	18,3 - 18,7	0,5(0,9)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking	g of slider		Full-load s	speed re	gulation	_	Idle spe	ed regula	ation		Torque (control
PRG che	ck Control rod	1	Setting po			cifications (4)	Setting p	_	Test spe	cifications (5)		(3
rev/min	travel		rev/min	rod travel	Control red travel mm	rev/min	rev/min	Control rod travel rmm	rev/min	Control rod travel mm	rev/min	Control rod Control
-	-		-	-	8,8	750-755	-	-	-	-	-	-
					4,0	776-789						
					850	0 -1,0						
										_1		

Torque-control travel on flyweight assembly dimension a =

mn

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	relivery on control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	/2L\	Starting f	
rev/min 1	cm ³ /-1000 strokes	rev/min 3	rev/min· 4	cm ³ /-1000 strokes 5		rev/min 6	Control of rod travel cm ³ /1000 strokes / mm
700	183,0 - 187,0 (181,0 - 189,0)	_	-	-		-	

Checking values in brackets

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MB 11,4 i 10

1. Edition

PES 6 P 120 A 820 LS 3077-10 RQ 300/1100 PA 585-2 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67

supersedes

Daimler-Benz company. OM 407 LA engine:

Komb.-Nr. 0 402 046 722

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC) Zyl. 6

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve)
1100	13,5+0,	21,3-21,5	0,5			
300	5,5-5,7	1,4-2,0	0,8			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	,			Test specifications (4) Control red travel		Setting p	Setting point Test specifications 5 Control rod			Control rod travel	
650 VH =	19,2-20,8 max. 46 °	650	20,0	12,5 4,0	1145-1160 1200-1230	300	4,9	300	min.6,5 4,8-5,0 10=2,0mm	-	-

Torque-control travel

1145-1160 min-1 Speed regulation: At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever emp. 40°C (104°F)	2	Control rod stop	3	Fuel deliv	ery characteristics	<u>3b</u>	Starting f	
rev/min 1	cm ³ /-1000 strokes		rev/min 3		rev/min 4	cm ³ /-1000 strokes 5		rev/min	Control rod travel cm ³ /1000 strokes:/ mm
LDA 1100	0,70 bar 213,0-215,0		-		LDA 600	0;70 bar 201,0-207,0		100	170,0-190,0
					LDA 500	0 bar 146,0-148,0		in	

Checking values in brackets

4.85

BOSCH

MB 11,4 i 10 - 2 -

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES6PLS3077-10 + RQPA 585-2	0	0,31 0,41	10,9-11,1 11,9-12,0 12,7-13,0
•			

Notes

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 11,4 i 11

1. Edition

PES 6 P 120 A 820 LS 3077-10 RQV 300-1100 PA 605-1

Komb.-Nr. 0 402 046 726

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67

supersedes companyaimler-Benz engine OM 407 LA

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pras	stroke	(3 95-4 15)	mm (from BDC)	Zyl. 6; R	W=9,0 - 12,0 m	n 🍎
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	13,5+0,1	21,3-21,5	0,5(0,9)			
600	5,5-5,7 -	1,4-2,0 C, Sp. 4 u. 5	0,8(1,2) 0,8(1,2)			
500						

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated :	speed		Intermediate	e rated sp	eed	Lower rated	speed		Clidina	dance formal
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min 2a	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3		mm
max.	1100	15,2-17,8	-	-	-	ca. 11		min. 6,0	300 500	1,7-1,8
	12,5 4,0 1350	1140-1150 1210-1240 0 - 1,0	7			325-415				3,2-3,5 4,6-5,0 7,1
						(3a)		•		

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel delic high idle s	very characteristics 5a speed 5b	Starting idle switchin		Torque- travel	Control od travel mm
rev/min	cm ³ /1000 strokes .	rev/min (4a)	rev/min	cm ³ /1000 strokes		cm ³ /1000 strokes	rev/min	
·	F	<u> </u>	-	3	6	/	8	9
LDA 1100	0,7 bar 213,0-215,0 (210,0-218,0)	1140-1150 *	LDA 600	0,7 bar 201,0-207,0 (198,0-210,0		170,0-190,0 (166,0-194,0		-
			LDA 500	0 bar 146,0-148,0 (143,0-151,0				

Checking values in brackets

2.1 mm less control rod travel than cot. 2

MB 11, 4 i 11 - 2

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Selting	Measurement	diminution Control rod travel- difference
·	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES 6 PLS3077-10 + RQVPA 605-1		0,31 0,42	10,9-11,1 11,9-12,0 13,0-13,2

Notes.

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MB 11,4 i 12 1. Edition

PES 6 P 120 A 820 LS 3077-10

RQ 300/1100 PA 761

supersedes

engine

Komb.-Nr. 0 402 046 762

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test

Daimler-Benz company OM 407 A 177 kW

tubing 1 680 750 067

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3.95-4.15)

mm (from BDCZyl. 6

Rotational speed		Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning
rev/min	travel *	cm ³ /100 strokes	cm ³ / 100 strokes	travel mm	cm ³ /100 strokes	(torque-control valve)
1100	10,5+0,1	15,2 - 15,4	0,5 (0,9)			6
300	5,0-5,2	1,4 - 2,0	0,8 (1,2)			
600	-	C, Sp. 4 u.5	0,8 (1,2)			
		, sp dec				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider ick	1	Full-load Setting p			cifications (4)	Idle spe			ecilications (5)	Torque		<u></u>
rev/min 1	Control rod travel mm 2		rev/min 3	Control rod travel mm	Control rod travel mm	rev/min 6	rev/min 7	Control rod travel	rev/min	Control rod	rev/min	Control rod travel	(3)
600	19,2-20	8,0	650	20,0	9,5	1145-1160	300	4,9	100	min. 6,5	-	•	
VH	=max. 46	5°			4,0	1200-1230			300	1,8 - 5,0			
									360-4	00 = 2,0			
										-1			

Torque-control travel on flyweight assembly dimension a =

1145-1160 min

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	Starting f	
rev/min	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	Control rod travel cm ³ /1000 strokes / mm
3100	152,0-154,0 (149,0-157,0)	-	500	150,0 - 156,0 (147,0 - 159,0)	100	150,0 - 170,0 (146,0 - 174,0)

Checking values in brackets

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 KHD 9,6 a 1
1. Edition

En

PES 6 P 110 A 720 RS 3079 Komb.-Nr. 0 402 076 716

RSV 300-1000 P 8 A 486

supersedes

company KHD

engine BF 6 L 413 FR 165 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,8-2,9 (2,75-2,95)

mm (from BDG) RW = 9.0 - 12.0 mm

Rotational speed rev/min	Control rod travel	Fuel delivery cm 1/100 strokes 3	Dillerence cm ¹ / 100 strokes	Control rod travel mm 2	Fuel delivery . cm*/100 strokes	Spring pre-tensioning (torque-control valve) mm 6
1000	13,5+0,1	15,2 - 15,4	0,4 (0,75			
300	7,6-7,8	1,3 - 1,9	.0,4 (0,7)			
! 		45.	j:			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed	l rev/min	Interme	date rate	d speed	(4)	Lower	rated speed	(3) 10	rque control
Degree of deflection of control fever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- tever deflection in degrees 7	rev/min	Control rod travel mm 9	rev/min	Control rod travel mm
loose	800	0,3-0,7	-	-	-	ca.11	300	7,7	1000	13,5 - 13
100.50	X =	2,0					300	7,6-7,8	350	14,7 - 15
ca.40	12,5 4,0 1225	1040-1050 1060-1090 0,3 - 1,4					300-360	= 2,0	550	13,5 - 13

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2)	ull-load stop	6 Rotational- speed limitat	uel delivery paracteristics	Starting fuel delivery 5			4a) Idle stop	
rev/min	cm /1000 strokes	Note changed to) rev/min	rev/min	cm ¹ /1000 strokes	rev/min	cm /1000 strokes	rev/min	Control rad travel mm
1	2	3	4	5	6	7	8	9
LDA 1000	0,9 bar 151,5-154,5 (149,0-157,0)	1040-1050*	LDA 750 LDA 500	0,9 bar 152,0-156,0 (149,0-159,0) 0 bar 123,0-125,0 (120,0-128,0)	100	190,0-210, 186,0-214,		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

KHD 9,6 a 1

- 2-

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES 6 PRS 3079	0,90		13,5 - 13,6
+ RSVP 8 A 486		0	12,4 - 12,5
		0,53	12,9 - 13,0
		0,43	12,6 - 12,8

Notes

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 KHD 9,6 b 4. Edition

PES 6 P 110 A 720 RS 3079

RSV 300-1150 P 8/486

11.83 KHD company

Komb.-Nr. 0 402 076 714

.. P 8 A 486

BF 6 L 413 FRC engine 199 kW (271 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

bei 2300 min^{-1}

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,75-2,95)

mm (from BD & V = 9,0 - 12,0 mm)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm 1/100 strokes	cm ^{-/} 100 strokes	mm	cm 1/100 strokes	mm
-	2	3	4	2	3	6
1150	14,2+0,1	17,7 - 18,1	0,4 (0,8)		e	
300	7,2-7,3	1,3 - 1,9	0,4 (0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed	rev/min	Intermed	diate rated	speed	(4)	Lower	rated speed	(3) To	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod fravel क्रक 9	rev/min	Control rod travel mm
loose	1	0,3 - 1,0 2,75	-	-	-	ca. 13	300	6,7	-	-
ca. 48	13,2 4,0 1390	1190-1200 1220-1250 0,3 - 1,4				all about the distriction	300 300-36	7,2-7,3 0 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

129	ull-load stop		Speed willtal Characteristics			Starting fuel delivery 5 4a Idle stop				
rev/min	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm1/1000 strokes	rev/min	cm /1000 strokes	rev/min	Control rod travel mm		
1150	0,9 bar 177,0-181,0 (174,0-184,0)	1190-1200*	LDA 800 LDA 500	0,9 bar 175,0-179,0 (172,0-182,0) 0 bar 123,0-125,0 (120,0-128,0)	100	190,0-210,0	-	_		

Checking values in brackets

* 1 mm less control rod travel than col. 2

KHD 9,6 b

Test at n =

550

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 P. RS 3079	1,20		14,2 - 14,3
mit P 8/486 A 486		0	11,9 - 12,0
		0,57	13,8 - 13,9
		0,35	12,4 - 12,8
•			

Notes

(1) when n =, . .

revimin and gauge pressure =

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 KHD 9,6 a

2. Edition

PES 6 P 110 A 720 RS 3079

RSV 300-1250 P 8/486

supersedes 9.82

Komb.-Nr. 0 402 076 715

" P8 A 486

ompany KHD

BF 6 L 413 FRC

199 kW/2500 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,8-2,9 (2,75-2,95)

mm (from BD ξ) RW = 9.0 - 12.0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fur! delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ⁴ /100 strokes	cm ^{-/} 100 strokes	mm	cm ¹ /100 strokes	mm
1	2	3	4	2	3	6
1250	14,5+0,1	18,0 - 18,4	0,4 (0,8)			_
300	7,2-7,3	1,3 - 1,9	0,4 (0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	er rated speed	trev/min	Interme	ediate rate	d speed	(4)	Lower	rated speed	(3) 10	rque control
Degree of deflection of control lever	travel mm	Control rod travel mm rev/min		5	6	Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
 	2]3	4	13	10	 '		9	-	''
loose	800	0,3-0,7	-	-	-	ca. 15	300	7.2	1250	14,5-14,6
	Х	= 4,0					300	7,2-7,3	350	15,7-16,3
ca.55	13,5 4,0 1490	1290-1300 1330-1360 0,3-1,4		•			300-36	0 = 2,0	550	14,5-14,6

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b) Full-load stop		6 Rotational- speed limitat	uel delivery naracteristics			4a) Idle stop		
Test oil to	cmp 40°C (104°F)	Note changed to) rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ² /1000 strokes	rev/min	Control rod travel mm
LDA 1250	0,9 bar 180,0-184,0	1290-1300*	LDA 800	0,9 bar 178,0-182,0	100	90,0-210,0 86,0-214,0		-
	(177,0-187,0)		LDA 500	(175,0-185,0) 0 bar 123,0-125,0				
				(120,0-128,0)				

Checking values in brackets

* 1 mm less control rod travel than col 2

KHD 9,6 a

- 2 -

Test at n =

550

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (t) .
PES 6 PRS 3079 + RSVP 8/486 P 8 A 486	0,90	0 0,57 0,30	14,5 - 14,6 12,1 - 12,2 13,9 - 14,0 12,8 - 13,0

Notes

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 VOL 10,0 o3 3. Edition

PE 6 P 110 A 320 RS 3080-1

ROV 250-1025 PA 589

Komb.-Nr. 0 401 846 768

supersedes 12.63 company. VOIVO

TD 100 FA

220 kW (299 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod	Fuel delivery	Difference	Control rod	- 12.0 mm	Spring pre-tensioning
	travel	3440	cm ³ /	travel		(torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
-	2	3	4	2	3	6
700	13,2+0,1	17,9 - 18,1	0,4(0,8)			2,1 + 0,1
250	4,3-4,5	1,7 - 2,1	0,3(0,6)	-772		$\begin{array}{c} 2,5 = 0,1 \\ (2,2 - 2,9) \end{array}$
						<u> </u>
						1

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		Sliding	ieeve travel
deflection of control	rev/min Control rod trave! mm	Control rod travel mm rev/min (2a)	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm 3		1
1	2	3	4	5	6	7	8	9	10	11
_max.	1090	15,2-17,8	-	-		ca. 9		min.5,8		0,7-0,9
ca. 64	12,2	1085-1095 1160-119 0					250	14,3-4,5	475 660	3,9-4,5
	1300	0 - 1,0					315-3	75 = 2,0	bis 945	5,4-6,6
						(3a)		,	1025	7,6

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		limitation intermediate speed	high idle s	very characteristics 5a speed 5b	Starting Idle switching		Torque- travel	Control rod
rev/min	cm³/1000 strokes .	rev/min (4a)	revimin	cm ³ /1600 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
<u> </u>	2	3	4	5	6	7	8	9
LDA	0,75 bar	1085-1095*	LDA	0,75 bar	100	150,0-200,0	_	-
700	179,0-181,0		1000	170,0-174,0		(146,0-204,0 = 20,0-21,0)	
i	(176,0-184,0)		L DA	(167,0-177,0)		mm RV		
			LDA	0 bar	`	54		
1	İ		700	30,5-133,5		i		
				(128,0-136,0)			
				(128,0-136,0)			

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test at n = 500 rev/min decreasing pressure - in ber gauge pressure

VOL 10,0 03

- 2 -

Pump/governot	Setting	Measurement .	diminution Control rod travel- difference
	Gauge pressure = par	Gauge pressure - bar	mm (1)
PE6P RS 3080-1	0,42		12,3 - 12,4
+ RQV PA 589		0,75	13,2 - 13,3
		0	10,5 - 10,6
		0,26	10,8 ~ 11,1

Notes

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 19,0 d 1

1. Edition

PE 12 P 110 A 920 LS 3081

RQV 300-1250 PA 696

supersedes

Komb.-Nr. 0 401 840 716

companyKHD

1- 4- 9- 8- 5 - 2 - 11- 10- 3 - 6 - 7 - 12

engine BF 12 L 413 FC

0-15-60-75-120-135-180-195-240-255-300-315° ± 0.5 ° (± 0.75 °)

315 kW /2500 min-1

estoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pre	stroke (2	2,75-2,9	mm (from BDC)			
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1250	10,9+0,1	13,0-13,4	0,5(0,8)			
300	6,7-6,9	1,8-2,4	0,7(1,0)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed		Intermediat	e rated sp	eed	Lower rated	speed			
4	rev/min Control rod travel mm 2	Control rod travet mm (28	of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	Sliding s	mm
max. ca. 64	9,9 4,0 1500	15,2-17,8 1290-1300 1380-1410 0-1,0	•	-	-	ca. 26 310-550	100 300	min.8,2 6,7-6,9	300 400 470 700 1300	1,2-1,8 2,5-2,8 3,0-3,5 4,3-4,5 8,6

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		Rotational-speed (2b) limitation intermediate speed		Fuel delivery characteristics 5a high idle speed 5b		fuel delivery 6	Torque-	control 5
rev/min	cm³/1000 strokes	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
LDA 1250	0,75 bar 130,0-134,0 (128,0-136,0)	1290-1300*	LDA 850 LDA 500	0,75 bar 121,5-125,5 (118,5-128,5) 0 bar 75,0-79,0 (72,0-82,0)	100	130,0-160,0	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

KHD 19,0 d 1

- 2 -

Test	tat	n	-

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 12 PLS 3081 + RQVPA 696	0,75	0 0,42 0,20	10,9-11,0 9,0-9,1 10,5-10,6 9,3-9,5

Notes

(1) when n =

rev/min and gauge pressure =

 \bigcirc

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 19.0 d 2

1. Edition

PE 12 P 110 A 920 LS 3081 RQV 300-750 PA 744 supersedes KHD

Komb.-Nr. 0 401 840 726 company BF 12 L 413 FC

1- 4- 9- 8- 5- 2- 11- 10- 3- 6- 7- 12

0-15-60-75-120-135-180-195-240-255-300-315° ± 0,5° (± 0,75°) engine 263 kW/1500 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,75-2,95) mm (from BDC

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
750	11,5+0,1	14,9-15,1	0,4(0,75			
300	6,3-6,5	1,8-2,4	0,45(0,75)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	e rated sp	eed	Lower rated	speed			
deflection	rev/min Controt rod travel mm 2		Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	
max.	790	15,2-17,8	-	-	-	ca. 19	100	min.7,8	300	1,3-1,4
ca. 55	10,5 4,0 1000	790-800 835-865 0-1,0					300 350-4	6,3-6,5 10=2,0		2,7-3,7 4,0-4,4 8,5
						(3a)				

Torque control travel a = - mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		Rotational-speed (2b limitation intermediate speed	Fuel deti- high idle :	very characteristics (5a)	Starting Idle switching		Torque-control travel Contro	
rev/min 1	cm³/1000 strokes .	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
750	149,0-151,0 (146,0-154,0)	790-800*	-	-	-	-	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 KHD 19,0 d 3

1. Edition

PE 12 P 110 A 920 LS 3081 RQV 300-1075 PA 746 supersedes

Komb.-Nr. 0 401 840 727

1- 4- 9- 8- 5- 2- 11- 10- 3- 6- 7- 12

0-45-60-105-120-165-180-225-240-285-300-315° ± 0,5° (± 0,75°) RHD

BF 12 L 413 F

engine and supersedes

Supersedes

KHD

BF 12 L 413 F

333 kW/2150 min

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke (2,75-2,95)	mm (from BDC)			
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1075	11,9+0,1	14,8-15,2	0,5(0,8)			
300	6,7-6,9	1,9-2,5	0,7(1,0)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed rev/min	Control rod	Intermediate	e rated sp	1	Lower rated	speed	1.	Sliding sleeve travel	
deflection	Control rod travel mm	travel (18)	Degree of deflection of control lever		Control rod travel	Degree of deflection of control		Control rod travel		
1	2	3	4	rev/min 5	mm (4)	lever 7	rev/min 8	mm (3)	rev/min 10	mm 11
max.	1120	15,2-17,8	-	-	-	ca. 19		min.8,2	300	1,3-1,4
ca. 54	10,9	1115-1125 1215-1245					300	6,7-6,9	430	2,3-2,7 2,8-3,3 5,3-5,6
	1350	0-1,0				315-465			1120	8,5
						3 a)				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-rod Test oil ten rev/min	d stop np 40°C (104°F) 2	Rotational-speed (2b) limitation intermediate speed rev/min (4a)	Fuel delin high idle s rev/min	very characteristics 5a speed 5b cm ³ /1000 strokes	idle switchir		Torque- travel	Control cod travel mm
1	2	3	4	5	6	7	8	9
LDA 1075	0,75 bar 148,0-152,0 (146,0-154,0		LDA 650	0,75 bar 143,0-147, (140,0-150,		125,0-155, (121,0-159,		-
			LDA 450	0 bar 122,0-126, (119,0-129,				

Checking values in brackets

* 1 mm less control rod travel than col. 2

KHD 19.0 d 3

- 2 -

Test at n =

450

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 12 PLS 3081 + RQVPA 746	0,75	0 0,41 0,27	11,9-12,0 10,8-10,9 11,6-11,7 11,0-11,2
		*	•

Notes

(1) when n :

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 SSC 19.0 b

1. Edition

PE 6 P 110 A 320 LS 3084

Komb.-Nr. 0 401 846 750

RQV 300-750 PA 614

company SSCM 6 L 150 engine 316 kW

estoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm³/100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
750	13,0+0,1	24,5-24,8	0,4(0,75)			
300	4,5-4,7	1,8-2,3	0,45(0,75			7
	,,,,	1,0 2,3	0,43(0,73			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed		Intermediate	e rated sp	eed	Lower rated	speed		Sliding	sleeve travel
deflection	rev/min Control rod travel mm 2	Control rod travel mm rev/min (28	of control	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3		1
max.	780	15,2-17,8	3 -	-	-	ca. 11			275	1,3-1,5
ca. 66		790-800 840-870					300	14,5-4,7		5,5-5,8 B,0-8,3
<u>{</u>	950	0 - 1,0				310-410				
						(3a)				_

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

!	d stop np. 40°C (104°F) 2	intermediate speed	high idle s		Starting Idle switchir	,)	Torque- travel	Control rod
rev/min	cm ³ /1000 strokes .	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
750	245,0-248,0 (242,5-250,5)	790-800 *	ı	-	300	18,0-23,0 (15,5-25,5)	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2 4.85

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 BA0 21.2 a 1

1. Edition

PE 8 P 130 A 520/4 RS 3085 Komb.-Nr. 0 401 848 750

ROV 400-750 PA 618

supersedes

1-2-4-5-6-3-7-8 je 45° $\stackrel{+}{-}$ 0,5° ($\stackrel{+}{-}$ 0,75°) Values only apply to test nozzle-and-holder

assembly 1 688 901 019 and fuel-injection test

tuhing 1 680 750 0 67
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

company Baudouin engine 8 P 15

A. Fuel Injection Pump Settings

estoil iso

Port closing at pres	stroke	(3,15-3,35)	mm (from BDQ)	RW = 9.0	-12,0 mm	
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
700	8,5-8,6	19,1-19,5	0,5(0,9)			
400	3,9-4,1	2,3-2,9	0,8(1,2)			
						}

Adjust the fuel delivery from each outlet according to the values in F

B. Governor Settings

Upper rated :	speed	v	Intermediate	rated sp	eed	Lower rated	speed		Slidings	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm		Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	mm (1)
<u>'</u>	2	3	4	3	P	/	°	9	10	57
max.	830	15,2-17,8	-	-	-	ca. 16		min. 5,6 3,9-4,1	400 475	0,9-1,1 1,8-2,3
ca. 48	7,5 4,0 900	750-755 775-785 0-1,0				B55-455		50 = 2,0	600 750	1,8-2,3 5,2
						(3a)				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil te		intermediate speed	Fuel deli high idle s	very characteristics 5a speed 5b	Idle	fuel delivery 6	Torque- travei	Control rod
rev/min	cm³/1000 strokes .	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
700	191,0~195,0 (188,0-198,0)	750-755*	-	1	-	-	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 BAO 21,2 a 2. Edition

En.

PE 8 P 130 A 520/4 RS 3085 RQV 400-750 PA 618-1 Komb.-IIr. 0 401 848 750
1-2-4-5-6-3-7-8 je 45 -0.5° (-0.75°)
Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

supersedes, 82
compaRaudouin
engine 8 P 15
467 kW (635 PS)

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotationa rev/min 1	speed	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
700	1	8,5-8,6	19,1419,5	0,5(0,9)			
400	00	3,9-4,1	2,3 - 2,9	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed		Lower rated	speed		00.40	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min 3	(1a) (2a)	Degree of deffection of control lever	rev/min 5	Control rod travel mm (6	4	Degree of deflection of control lever	rev/min	Control rod travel mm 3		mm
max.	830	15,2-17	,8	-	•	-		ca. 16		min. 5,6	350	0 - 0,2
ca.48	7,5 4,0 900	750-755 775-785 0 - 1,0								3,9-4,1 85=2,0		2,0 2,0-3,8
								(3a)			750	5,1

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed (2b) limitation intermediate speed	Fual delic	very characteristics 5a speed 5b	idle	fuel delivery 6	Torque- travel	control 5
rev/min 1	cm³/1000 strokes .	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	
			-		6	/	8	9
700	191,0-195,0 (188,0-198,0	750-755*)	•		•	-	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 GUS 21,2 b

1. Edition

sioil-150 4113

PE 8 P 130 A 520 RS 3085-1 RQV 350-900 PA 749 Komb.-Nr. 0 401 838 704 1-2-4-5-6-3-7-8 je 45 ° ± 0,5 ° (± 0,75 °) Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67

supersedes compa6NaSCOT engineE 212

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod	(3.55-3.75) Fuel delivery	mm (from BDC) Difference	Control rod	Fuel delivery	Spring pre-tensioning
rev/min 1	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes 3	(torque-control valve) mm 6
3 00	8,5-8,6	18,8-19,1	0,5 (0,9)			
350	4,0-4,2	2,2-2,8	0,8 (1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s Degree of dellection of confrol lever	rev/min Control rod travel mm		Intermediate Degree of deflection of control lever	rated sp rev/min 5	Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed : rev/min 8	Control rod trave!	Sliding s	mm
max. ca. 58	950 7,5 4,0	15,2-17,8 940-950 965-995	-	-		ca. 10	100 350		300	1,0-1,2 2,8-3,2 4,8-5,1
Town or the	1100	0 - 1,0			,	355-455 ③a				

Torque control travel a = _ mn

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	elivery d stop np. 40°C (104°F) 2	Rotational-speed (2b limitation intermediate speed	Fuel deli high idle	very characteristics 5a speed 5b	Starting Idle switching	\circ	Torque- travel	Control to
rov/min	cm ³ /1000 strokes .	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
900	188,0-191,0 (185,0-194,0		-	-	-	-	-	-
		ï						

Checking values in brackets

* 1 mm less control rod travel than col 2

0

2

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 UNI 9,6 a 1

3. Edition

En

PES 6 P 110 A 320 RS 3105-1 Komb.-Nr. 0 402 046 737 RQ 275/1150 PA 653

company IVECO-Unic engine: 8220-32 129 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3,15-3,35)

mm (from BDC)

		,,				
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1150	11,3+0,1	11,7-12,0	0,4(0,75)			
275	5,9-6,1	1,5-2,0	0,45(0,75			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min 1	Control rod	Full-load s Setting po rev/min 3		3 .	rev/min	Idle spec Setting p rev/min 7	Control Frod travel		cifications 5 Control rod travel mm	Torque (Control rod (3)
600 VH =	19,2-20,8 max. 46°	600	20,0		1195-1210 1245-1275 0-1,0	275	6,0	275	nin.7,5 5,9-6,1 890=2,0		11,5-11,6 11,5-11,7

Torque-control travel on flyweight assembly dimension a =

0

Speed regulation: A1195-1210 min-1

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	rery characteristics	<u>3b</u>	Starting I	fuel delivery
rev/min 1	cm³/~1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5		rev/min	cm ³ /1000 strokes:/ mm
LDA 1150	0,7 bar 117,0-120,0 (114,5-122,5)	-	LDA 400	0 bar 82,0-85,0 (79,0-88,0)		100	160,0-180,0 (156,0-184,0)

Checking values in brackets

5.85

BOSCH

UNI 9,6 a 1 - 2 -

Testatn =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travet- difference
	Gauge pressure = bar	Gauge pressure = " bar	mm (1)
PES 6 PRS3105-1 + RQPA 653	0,70	0 0,255 0,24	11,3-11,4 10,2-10,3 10,9-11,0 10,4-10,6

Notes

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 VOL

2. Edition

PE 6 P 120A 320 RS 3118-2 Komb.-Nr. 0 401 846 796

RQV 250-900 PA 657-5

supersede2.85 company: Volvo

TD 121 FC engine:

Values only apply to test nozzle-and-holder assembly 1 688 901 079 and fuel-injection test

232 kW

tubing 1 680 750 0 67

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC)

Rotational speed rev/min	Control rod traval mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	11,4+0,1	19,7-20,0	0,5(0,9)			2,5 [±] 0,1
250	3,3-3,5	1,8-2,3	0,5(0,7)			(2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated	speed		Intermediate	e rated sp	eed	Lower rated	speed		Clinting	
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 28	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
max.	980	15,2-17,8	-	-	-	ca. 7	100 250	min. 4,8	200 500	0,6-0,9
ca. 62	10,4 4,0 1100	940-950 1000-1030 0 - 1,0			. 4	(3a)	280-3	3,3-3,5 40 = 2,0	660 - 850 900	4,2-4,8 6,4-6,6 7,2

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed (2b limitation intermediate speed	Fuel deli high idle :	very characteristics 58 speed 5b	Idle	fuel delivery 6	Torque- travei	control 5
rev/min 1	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
LDA 700	0,7 bar 197,0-200,0 (194,0-203,0		LDA 700	0 bar 150,0-154,0 (147,0-157,0)		240,0-280,0 = 20,0-21,0 mm RW (236,0-284,0	-)	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

05.85

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VOL 12,0 K3 - 2

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = ba	Gauge pressure = bar	mm (1) .
PE 6 PRS 3118-2 +RQVPA 657-5	0,70	0,43 0,17	11,4-11,5 9,1-9,2 11,2-11,3 9,2-9,7

Notes:

(1) when n =

rev/min and gauge pressure =

WPP 011/4 MB 11.0 o 2. Edition

PE 6 P 110 A 320 LS 3805

RQ 300/1000 PA 187

supersede 3.82

Komb.-Nr. 0 401 846 762

company Daimler-Benz OM 421

1 - 6 - 3 - 5 - 2 - 40 -75 -120-195-240-315° $\stackrel{+}{-}$ 0,5° ($\stackrel{+}{-}$ 0,75°)

140 kW (190 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
4,0 - 4,1
Port closing at prestroke (3,95-4,15)

mm (from BDCZy1. 6

		1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		-5		
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm³/100 strokes	Spring pre-tensioning (lorque-control valve) mm
1000	11,5+0,1	12, 1 - 12, 3	0,4(0,8)			
300	8,0-8,2	1,5 - 2,1	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	() /	Full-load s	oint	Test spec	cifications (4)	Idle spe	•		cifications (5)	Torque ((3)
rev/min	travel mm	rev/min 3	Control rod travel mm 4	Control rod travel rnm	rev/min 6	rev/min	Control rod travel rmm 8	rev/min 9	Control rod	rev/min	Control rod travel	
650	13,0-14,0	650	13,5		1045-1060 1080-1110	300	8,1	300	min.9,5 8,0-8,2 170 = 2,0m	•	-	

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At - 1060 min⁻¹

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delive governor contr Test oil temp. 4	ol lever	2	Control rod stop	Fuel deliv	ery characteristics	Starting to	tuel delivery
rev/min cm 1 2	³ /-100C strokes		rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min	cm ³ /1000 strokes:/ mm
	120, 5 - 122, 5 1 17, 5 - 125, 5		-	600	102,0 - 106,0 (99,0 - 109,0)	100	130,0-150,0 (126,0-154,0)

Checking values in brackets

Test Specifications Fuel Injection Pumps (2) and Governors

WPP 001/4 MB 11,0c

2. Edition

estoil-ISO 411 Komb.-Nr. 0 401 846 723

PE 6 P 110 A 320 LS 3805

RQ 300/1150 PA 187-2R

supersedes 0.79 companyDaimler-Benz or1 421 engine: (158,0kW - 215PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection, Pump, Settings

Port closing at prestroke

(3.95-4.15)

mm (from BDØ3y1.6, RW=9,0-12,0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	12,5-12,6	12,2 - 12,4	0,4(0,75			
300	8,3-8,5	1,1- 1,7	0,4			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che		Full-load : Setting po	•						cifications (5)	Torque	Torque control		
rev/min	Control rod travel mm	rev/min 3	Control rod travel mm 4	Control rod travel mm	rev/min 6	rev/min 7	Control rod travel rmrn 8	rev/min 9	Control rod	rev/min	Control rod (travel)		
600	13,8-14,6	600	14,0	11,5	1195-1210	300	8,4	100	min. 9,9	1150	12,5-12,6		
				4,0 1400	1245-1275 0 - 1,0			300 430-	8,3-8,5 470=2,0	600	12,5-12,7		

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	felivery on control lever mp. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	Starting f	ruel delivery
rev/min	cm³/-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min S	red travel cm ³ /1000 strokes:/ mm 7
1150	122,0 - 124,0 (119,5 - 126,5)	600	600	114,0 - 118,0 (111.0 - 121,0)	100	130,0 - 150,0 (126,0-154,0)

Checking values in brackets

Test Specifications Fuel Injection Pumps 1

and Governors

WPP 001/4 MB 11,0 i 1 3. Edition

Testoil-iSO 4113

PE 6 P 110 A 320 LS 3805

RQV 300-1150 PA 524-6

supersed 83
company aimler-Benz

engine: OM 421

148 kW (201 PS)

1 - 6 - 3 · 3 - 2 - 4 0 -75 -120-195-240-315° - 0,5° (- 0,75°)

Komb.-Nr. 0 401 846 756

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	(3,95-4,15)	mm (from BDC)	Zy1. 6		
Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
1150	12,6+0,1	12,7 - 12,9	0,4(0,8)			
300	8,7-8,9	1,6-2,2	0,4(0,7)			
	l		1			1
		l .	I	l .	1	ŧ.

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	e rated sp	eed	Lower rated	speed		Sliding s	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 28	Degree of deflection of control laver	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
max.	1150	15,2-17,8	-	-	-	ca.19	100	min.10,0		1,0-1,2
ca. 65		1190-1200 1240-1270 0 - 1,0				330-740	300	18,3-8,5	550 850 1150	3,4-3,7 4,9-5,3 7,6
<u> </u> 						<u>3</u> a				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten		Rotational-speed (2) limitation intermediate speed	Fuel deli high idle	very characteristics 58	Idle	fuel delivery 6	Torque- travel	Control rod
rev/min	cm³/1090 strokes	rev/min (4)	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5 .	6	7	8	9
1150	127,0-129,0 (124,0-132,0)	1190-1200 *	600	104,5 - 108,5 (101,5 - 111,5)	100	130,0-150,0 (126,0-154,0	-	-
_	·			·				

Checking values in brackets

* 1 inm less control rod travel than cot. 2

estoil SO 41

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MB 11,0 o1

1. Edition

PE 6 P 110 A 320 LS 3805-10 Komb.-Nr. 0 401 846 762

RQ 300/1000 PA 187

supersedes_

company Daimler-Benz

engine.

140 kW (190 PS)

OM 421

1-6-3-5-2-4 $0-75-120-195-240-315 \circ \pm 0.5 \circ (\pm 0.75 \circ)$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3.95-4.15)

mm (from BDC) Zyl. 6

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
1000	11,5+0,1	12,1-12,3	0,4(0,8)	-	3	
300	8,0-8,2	1,5-2,1	0,4(0,7)			
600	-	C, Sp. 4 u. 5	0,6(0,9)			
000	-	C, Sp. 4 u. 5	0,6(0,9)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking of slider PRG check Control rod Itravel rev/min mm 1 2		t Test atrol Control d travel and tr	specifications (4)	Idle speed regularity Setting point Control roof traverse rev/min mm	Test specifications Control rod travel	Control rod travel mm
650 13,0-14,0	650 1	3,5 10 4	,6 1045-1060 ,0 1080-1110	300 8,1		11 12

Torque-control travel on flyweight assembly dimension a =

1045-1060 min

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	trol lever (2) : (3)		rery characteristics (3b)	Starting fuel delivery idle speed			
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min	cm ³ /~1000 strokes 5	rev/min 6	rod travel cm ³ /1000 strokes / mm		
1000	120,5-122,5 (117,5-125,5)		600	102,0-106,0 (99,0-109,0)	100	130,0-150,0 (126,0-154,0)		

Checking values in brackets

4.85

Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

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Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 11.0 c 4

2. Edition

PE 6 P 110 A 320 LS 3805-10

ROV 300-1150 PA 524-4

supersedes 10.84

Komb.-Nr. 0 401 846 748

company: Daimler-Benz

OM 421

1 - 6 - 3 - 5 - 2 - 4 $0 - 75 - 120 - 195 - 240 - 315^{\circ} + 0.5^{\circ} (+0.75^{\circ})$

159 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	(3,95-4,15)	mm (from BDC)	Zy1.6		
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,7+0,	1 13,2-13,4	0,4(0,8)			
300	7,8-8,		0,4(0,7)			
600	-	C, Sp.4 u.5	0,6(0,9)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed		Intermediat	e rated sp	eed	Lower rated	speed		Stidion	leeve travel
deflection	rev/min Control rod travel	Control rod (1a	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Siloning s	1
lever	mm	rev/min (2a	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm .
1	2	3	4	5	6	7	8	9	10	11
max.	1190	15,2-17,8	_	- .	-	ca. 22		min.9,5 7,8-8,0	300 800	1,6-1,8 5,8-6,2
ca. 55	10,7 4,0 1400	1235-1265						470=2,0	1200 1260	8,2-8,4 10,0
	. 100		•			3a				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		Rotational-speed 2b Fuel deli limitation intermediate speed high idle			Starting fuel delivery 6 Idle switching point		Torque-control 5 travei Control rod	
rev/min	cm³/1000 strokes .	rev/min 48	rev/min	cm ³ /1000 strokes	rov/min	cm ³ /1000 strokes	rev/min	travel mm
1	3	3	4	5	6	7	8	9
1150	132,0-134,0 (129,5-136,5		600	110,0-114,0 (107,0-117,0		130,0-150,0 (126,0-154,0		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

40

WPP 001/4 MB 11,0 d 3

1. Edition

PE 6 P 110 320 LS 3805-10 RSV 650-1150 P 1 A 820

Komb.-Nr. 0 401 876 717

1- 6- 3 - 5 - 2 - 4 0-75-120-195-240-315° ± 0,5° (± 0,75°) supersedes.

company Daimler-Benz

engine 0M 421

159 kW (1) 155 kW (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

151 kW (3)

A. Fuel Injection Pump Settings

Port closing at prestroke

4,0-4,1 (3,95-4,15)

mm (from BDC) Zy1. 6; RW = 9,0-12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm 1/100 strokes	cm ¹ / 100 strokes	mm	cm 7100 strokes	mm
1	2	3	4	2	3	6
1130	12,1+0,1	13,0-13,2	0,4 (0,8)			
650	6,0-6,2	1,8-2,4	0,4 (0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	rated speed	rev/min	Interme	diate rated	speed	4	Lower	rated speed	3 Torque control		
Degree of deflection of control lever 1	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- tever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm	
loose	800	0,3-0,7	-	-	-	ca. 30	650	6,1	- ,,	-	
10036	x = 3	3,5					650	6,0-6,2 $5 = 2,0$			
ca. 57	11,1 4,0 1300	1160-1170 1185-1205 0,3-1,4					650-71	5 = 2,0			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

100	emp 40°C (104°F)	Rotational- speed limitat		nel delivery paracteristics	Starting I	uel delivery 5	da Idle stop		
rev/min	cm ¹ /1000 strokes	Note changed to) rev/min	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min B	travel mm	
1130 (1) (2) (3)	130,0-132,0 127,5-134,5) 128,0-130,0 124,0-126,0	1160-1170*		-	100	140,0-160 (136,0-164		-	

Checking values in brackets

* 1 mm less control rod travel than col 2

40

WPP 601/4 MB 11,0 d 1

1. Edition

En

PE 6 P 110 A 320 LS 3805-10 Komb.-Nr. 0 401 876 739

RSV 650-1150 P 1 A 820-3

supersedes Daimler-Benz

company

OM 421 159 kW

1- 6- 3 - 5 - 2 - 4 0-75-120-195-240-315° + 0,5° (+ 0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3,95-4,15)

mm (from BDC) RW = 9,0 - 120,0 mm, Zyl. 6

Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve		
mm (2)	cm ¹ /100 strokes	cm ¹ / 100 strokes	ភាព	cm1/100 strokes	mm		
2	3	4	2	3	6		
12,1+0,1	13,0 - 13,2	0,4 (0,8)					
6,0-6,2	1,6 - 2,2	0,4 (0,7)			7		
-	C,Sp. 4 u. 5	0,6 (0,9)			·		
	12,1+0,1 6,0-6,2	travel mm 2 cm 1/100 strokes 3 12,1+0,1 13,0 - 13,2 6,0-6,2 1,6 - 2,2	travel mm 2 cm ¹ /100 strokes cm ¹ /100 strokes 12,1+0,1 13,0 - 13,2 0,4 (0,8) 6,0-6,2 1,6 - 2,2 0,4 (0,7)	travel	travel		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	er rated speed		Interme	diate rate	d speed	(4)	Lower	rated speed	3 Torque control		
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm	
	800	0,3-0,7	-	-	-	ca. 30	650	6,1	1180	12,0 -12,	
loose	X =	4,0					100	min.19,5	975	12,5 -12,	
ca.57	11,1 4,0 1350	1210-1220 1240-1260 0,3 - 1,4					650 650 - 7	6,0 -6,2 15 = 2,0			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp_40°C (104°F)	Rotational speed limital (3a) Fuel delivery characteristics			Starting I	luel delivery 5	(4a) Idi	e stop
	cm 71000 strokes	changed to .) rev/min	rev/min 4	cm ¹ /1000 strokes	rev/min	cm7/1000 strokes	rev/min 8	Control rod travel mm
1180		i .	975	130,0 - 134,0	l	140,0-160,		-
	(127,5 - 134,5			(127,0 - 137,0)		136,0-164,	υ) 	

Checking values in brackets

* 1 mm less control rod travel than col. 2

40

WPP 001/4 MB 11,0 d 4

1. Edition

PE 6 P 110 320 LS 3805-10 Komb.-Nr. 0 401 876 717

RSV 650-1150 P 1/820

supersedes Daimler-Benz

1- 6- 3 - 5 - 2 - 4 0-75-120-195-240-315° ± 0,5° (± 0,75°) company OM 421 engine 159 kW (1)

155 kW (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

155 kW (2) 151 kW (3)

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 41

(3,95-4,15)

mm (from BDCZy1. 6; RW=9,0-12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm1/100 strokes	100 strokes	mm	cm ⁻ /100 strokes	mm
4430	42 4:0 4	42.0.42.0	0.440.03	2	3	6
1130	12,1+0,1	13,0-13,2	0,4(0,8)			
650	6,0-6,2	1,8-2,4	0,4(0,7)			
		İ		1		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed		Intermed	diate rated	speed	(4)		rated speed	(3) 10	rque control
Degree of deflection	Control rod travel travel mm rev/min					Control- lever		Control rod travel		Control rod travel
of control lever 1	2	3	4	5	6	deflection in degrees 7	rev/min 8	9	rev/min 10	mm 11
loose	800	0,3-1,0	-	_	-	ca. 30	650	6,1	-	-
10030	X =	3,5					650	6,0-6,2		·
ca. 57 (2a)	11,1 4,0 1300	1160-1170 1185-1205 0,3-1,7					650-715]= 2 ,U		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b) Fu	III-load stop	6 Rotational- speed limitat		ue! delivery naracteristics	Starting t	Starting fuel delivery 5 4a idle stop			
Test oil to	emp 40°C (104°F) cm1/1000 strokes	Note. changed to) rev/min	rev/min	cm³/1000 strokes	rev/min	cm/1000 strokes	rev/min	Control rod travel mm	
1	2	3	4	5	6	7	8	9	
1130		1160-1170*	-	-	100	140,0-16	0,0 -	-	
(1)	130,0-132,0 (127,5-134,5)					(136,0-16	4,0)		
(2)	128,0-130,0								
(3)	124,0-126,0								
				i					

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 MB 11,0 d 2

1. Edition

PE 6 P 110 A 320 LS 3805-10 Komb.-Nr. 0 401 876 717

RSV 650-1200 P 1 A 820-3

supersede * company Daimler-Benz

1- 6- 3 - 5 - 2 - 4 0-75-120-195-240-315° ± 0,5° (± 0,75°)

OM 421 159 kW (1)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

155 kW (2) 151 kW (3)

A. Fuel Injection Pump Settings

Port closing at prestroke

estoil-ISO 4113

4,0-4,1(3.95-4.15)

mm (from BDCZyl. 6

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ^{1/} 100 strakes 3	cm ¹ / 100 strokes	mm 2	cm ¹ /100 strokes	mm 6
1180	12,0+0,1	13,0-13,2	0,4 (0,8)			
650	6,0-6,2	1,6-2,2	0,4 (0,7)			1
1000	-	C, Sp.4u.5	0,6 (0,9)	!		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe Degree of	crated speed	Control rod	Intermediate rated speed			Control-	Lower	rated speed	3 Torque control		
deflection of control lever	mm 2	fravel mm rev/min 3	4	5	6	lever deflection in degrees	rev/min	travel mm 9	rev/min	travel mm	
loose	800	0,3-1,0	-	-	-	ca. 30	650	6,1	1180	12,0-12,1	
1.0036	x = 4,5			•			650	6,0-6,2 15 = 2,0	1000	12,5-12,7	
ca. 57	11,0 4,0 1300	1210-1220 1245-1265 0,3-1,7					050-7	15 = 2,0			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp_40°C (104°F)	Rotational- speed limitat	3a fe	uel delivery naracteristics	Starting Idle	luel delivery 5	4a) Idle stop	
rev/min	cm ¹ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ¹ /1000 strokes 5	rev/min	cm-V1000 strokes	rev/min 8	Control rod travel mm
1180 (1) (2) (3)	130,0-132,0 (127,5-134,5) 128,0-130,0 124,0-126,0	1210-1220*	1000	130,0-134,0 (127,0-137,0)	100	140,0-160 (136,0-164		-

Checking values in brackets

* 1 mm less control rod travel than col 2

WPP 001/4 MB 14,6 K

4. Edition

PE 8 P 120 A 320 LS 3807

RQV 300-1150 PA 545

1-8-7-2-6-3-5-4 je 45° $\stackrel{+}{=}$ 0,5° ($\stackrel{+}{=}$ 0,75°) Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67

supersess83 companDaimler-Benz engine: OM 422 A 243 kW (330 PS) Komb.-Nr. 0 401 848 732

A.

Testoil-ISO

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	4,0-4,1	mm (from BDC)			
Rotational speed rev/min	Control and travel	Fue: dallvery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1150	10,740,1	15,8-16,0	0,5(0,9)			
300	5,2-5,4	1,2-1,8	0,8(1,2)			
600						
900	-	C, Sp. 1 - 5	0,7(1,2)			
500					1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed		Intermediate	rated sp	eed	Lower rated	speed			
Degree of deflection of control lever	rev/min Control rod travel mm 2	1 / . \	Degree of deffection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	sliding s	mm
max.	1190	15,2-17,8	-	-	-	ca. 17	100	min.6,7	300	
ca. 54	9,7 4,0 1350	1190-1200 1235-1265 0-1,0					300 335-4	5,0-5,2 05 = 2,0	800 1200 1260	8,1-8,3
						(3a)		·		

Torque control travel a = 0.70 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		Rotational-speed (2b) Fuel del limitation high idlé intermediate speed		very characteristics (5a)	Starting Idle switching		Torque- travel	Control co
rev/min 1	cm ³ /1000 strokes .	rev/min 4a	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	travel mm
LDA 1150 LDA 600	0,7 bar 157,5-159,5 (154,5-162,5) 0,7 bar 167,0-173,0 (164,0-176,0)		LDA 900 LDA 500	0,7 bar 165,0-169,0 (162,0-172,0 0 bar 139,0-141,0 (136,0-144,0		140,0-160,0 (136,0-164,0		11,4+0

Checking values in brackets

* 1 mm less control rod travel than col. 2

MB 14,6 k

- 2 -

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 8 PLS 3807 + RQVPA 545	0	0,40 0,47	10,3-10,4 10,4-10,5 10,9-11,1

Notes

(1) when n ≈

rev/min and gauge pressure =

414

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 14,6 k 1

2. Edition

PE 8 P 120 A 320 LS 3807

ROV 300-1150 PA 545-1

1-8-7-2-6-3-5-4- je $45^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$ Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67

supersedes 83

company Daimler-Benz OM 422 LA

276 kW

Komb.-Nr. 0 401 848 754

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
4,0-4,1
Port closing at prestroke (3,95-4,15) mm mm (from BDCTy]. 8

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /10C strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	12,0+0,1	î3,2-18,4	0,5(0,9)			
300	4,8-5,0	1,2-2,0	0,8(1,2)			
750 500	,	C, Sp. 4 v.5	(1,2)			

Adjust the fuel delivery from each outlocaccording to the values in p

B. Governor Settings

Hoper rated s	peed	1	Intermediate	rated sp	red	Lower rated	speed		Slidings	leeve travel
deflection of control	rev/min Control rod travel mm	Centrel rod travel mm rev/min (2a)	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travei	rev/min	mm (1)
1	2	3	4	5	6	7	8	9	10	11
max.	1190	15,2-17,8	-	-	-	ca. 17	100 300	min.6,5	300	1,6-1,8
ca. 55	11,0 4,0 1400	1235-1265								6,0-6,2 8,6-8,8 10,0
						(3a)				

Torque control travera =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load dictivery Control-rod stop Test oil temp. 40°C (104°F) 2		Rotational-speed (2b) Fuel delivery of high idle speed intermediate speed		speed (5b)	Starting Idle switchir	$\overline{}$	Torque- travel	Control cod
rev/min	cm ³ /1000 strokes	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
LDA 1150	0,7 bar 182,0-184,0 (179,0-187,0)	1190-1200*	LDA 750	0,7 bar 195,0-198, (192,0-201,		140,0-160,0 (136,0-164,0		
			LDA 500	0 bar 141,0-143, (138,0-146,				

Checking values in brackets

* 1 mm less control rod travel than col. 2

MB 14,6 k 1

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution
	Cauda esperato a	Causa pressure - has	Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 8 PLS 3807	0		10,5-10,7
+ RQVPA 545-1		0,40 0,55	11,1-11,4 12,2-12,6
		, ,,,,	12,2-12,0

Notes

(1) when a =

rev/min and gauge pressure =

WPP 001/4 MB 14.6 a 2

2. Edition

PE 8 P 120 A 320 LS 3807

RO 300/1150 PA 546-1

1 - 8 - 7 - 2 - 6 - 3 - 5 - 4 je $45^{\circ} - 0.5^{\circ} (-0.75^{\circ})$

company Daimler-Benz

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test OM 422 LA

tubing 1 680 750 0 67

276 kW Komb.-Nr. 0 401 848 753

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3.95-4.15)

mm (from BDCZV1. 8

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve) mm
1150	12,0+0,1	18,2-18,4	0,5(0,9)			
300	4,8-5,0	1,2-2,0	0,8(1,2)			
750 500		C, Sp. 4 u. 5	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	ng of slider eck Control rod	Full-load Setting po	Control	Test spe Control	cifications (4)	Idle spe	-		ecifications 5	Torque	control Control rad
rev/min 1		rev/min 3	rod travel mm 4	rod travel rom 5	rev/min 6	rev/min 7	rod travel mm 8	rev/min 9	travel	rev/min	travel
600 VH=n	19,2-20,8 ax. 46°	600	20,0		1195-1210 1235-1265 0-1,5	300	5,5	300	min.6,5 5,4-5,6 15=2,0	750	12,0-12,1 12,4-12,5 12,2-12,4
Forgue-ci	ontrol travel		0,2	3			11	95-12	10 min 1		

on flyweight assembly dimension a =

Speed regulation: At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting !	
rev/min	cm ³ /-1000 strokes 2	rev/min 3	řév/min 4	cm ³ /-1000 strokes 5	rev/min	Control rod travel cm ³ /1000 strokes / mm
LDA 1150	0,7 bar 182,0-184,0 (179,0-187,0)	-	LDA 750	0,7 bar 195,0-198,0 (192,0-201,0)	100	140,0-160,0 (136,0-164,0)
			LDA 500	0 bar 141,0-143,0 (138,0-146,0)		

MB 14,6 g 2

- 2 -

Test	at	n	=

500

rev/min decreasing pressure = in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travet- difference
	Gauge pressure ≠ bar	Gauge pressure = bar	mm (1)
PE 8 PLS 3807 + RQPA 546-1	0	0,40 0,55	10,5-10,7 11,1-11,2 12,2-12,4
		.*	

Notes

(1) when n =

rev/min and gauge pressure =

estoil-ISO 411

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 14,6 K 4

1. Edition

PE 8 P 120 A 320 LS 3807 -10 RQV 300-1150 PA 545

1-8-7-2-6-3-5-4 je 45 ° $^{+}$ 0,5 ° ($^{+}$ 0,75°) Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67

supersedes

companDaimler-Benz engine 0M 422 A 243 kW (330FS) Komb.-Nr. 0 401 848 732

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

rev/min n 1 2	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1150	0,7+0,1	15,7-15,9	0,5(0,9)		·	
300	5,2-5,4	1,2-1,8	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed	Lower rated	speed		Cuintina	
deflection of control	rev/min Control rod travel mm 2	Control rod travel mm rev/min 3	(1g) (2g)	Degree of deflection of control lever	rey/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
max.	1190	15,2-1	7,8	_	-	-	ca.17	100	min.6,7		1,6-1,
ca. 54	9.7 4,0	1190-12 1235-12						ı	5,0 - 5,2	1200 1260	6,0-6, 8,1-8, 9,9
	1350		1,0				(3a)				

Torque control travel a = 0,5 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc Test oil ten		intermediate speed	high idle s	very characteristics 58 speed 5b	Starting fuel delivery 6 Idle switching point		Torque- travel	Control rod	
rev/min	cm³/1000 strokes .	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm	
1	2	3	4	5	6	7	8	9	
LDA 1150	0,7 bar 157,5-159,5 (154,5-162,5)	1190-1200*	LDA 750 LDA 500	0,7 bar 173,5-175,5 (170,5-178,5 0 bar 139,0-141,0 (136,0-144,0	100	140.0-163.0 (136,0-164,0	750	10,7+0 11,0+0 10,9+0	

Checking values in brackets

* 1 mm less control rod travel than col. 2

MB 14,6 k 4

- 2 -

Testatn =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travet- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 8 PLS 3807-1 + RQVPA 545	0 0	0,40 0,47	10,3-10,4 10,4-10,5 10,9-11,1
			·
,		•	

Notes

(1) when n =

rev/min and gauge pressure =

WPP 001/4 MB 14,6 k 3

1. Edition

oil-ISO 4113

PE 8 P 120 A 320 LS 3807-10 RQV 300-1150 PA 545-3 Komb.-Nr. 0 401 848 763 1-8-7-2-6-3-5-4 je 45 ° ± 0,5 ° (± 0,75 °) Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67

supersedes Daimler-Benz compa OM 422 LA engine 276 KW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
1150	11,1+0,1	16,7-16,9	0,5 (0,9)			
300	5,1-5,3	1,2-2,0	0,8 (1,2)		 	-
75 G	**	C, Sp. 4 u. 5	0,8 (1,2)			
500						

Adjust the fuel delicary from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	e rated sp	eed	Lower rated	speed		Clining	la ava tanvat
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	rev/min	mm
max.	1190	15,2-17,8	-	-	-	ca.20	100 300	min. 6,8		,6-1,8
ca. 56	10,1 4,0 400	1190-1200 1250-1280 0 - 1,0								5,0-6,2 3,6-8,8 10,0
		0.50				(3a)				

Torque control travel a = 0,50 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle :	very characteristics 58	Starting fuel delivery 6 Idle switching point		Torque travel	-control 5
rev/min	cm³/1000 strokes .	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA 1150	0,7 bar 167,0-169,0 (164,0-172,0		LDA 750 500	0,7 bar 181,0-184,0 (178,0-137,0) 140,0-142,0 (137,0-145,0)				11,1+0, 11,6+0,

Checking values in brackets

* 1 mm less control rod travel than col. 2 4.85

MB 14,6 k 3 - 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

300			
Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 8 P LS 3807-1 +RQV PA 545-3	0 0	0,41 0,49	10,3 -10,4 10,6 -10,7 11,2 -11,4
		:	

Notes

(1) when n =

rev/min and gauge pressure =

WPP 001/4 MB 14,6 q 3

1. Edition

PE 8 P 120 A 320 LS 3807-10 RQ 300/1150 PA 546-4 Komb.-Nr. 0 401 848 760 1-8-7-2-6-3-5-4 je $45 \circ \pm 0.5 \circ (\pm 0.75 \circ)$ Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

supersedes Daimler-Benz OM 422 A engine 243 kW

A. Fuel Injection Pump Settings

Port closing at prestroke

(3,95-4,15)

mm (from BDE)y1. 8

rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1150	10,5+0,1	15,3-15,5	0,5 (0,9)			
300	5,2-5,4		0,8 (1,2)			-
750	-	C, Sp. 4 u. 5	1			
500						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min 1	Control rod travel	Full-load s Setting po rev/min 3			rev/min	Idle spe Setting rev/min 7	point Control rod travel		cifications 5 Control rod travel	Torque (Control (3) travel
000 VH=	19,2-20,8 max. 46°	600	20,0	9,5 4,0 1350	1195-1210 1250-1280 0 - 1,0		5,3	300		1150 750	10,5-10,6-11,1-11,3
Torque·c	ontrol travel		0,30				11	95-12	10 min-1		1 mm less control

Torque-control travel on flyweight assembly dimension a = 0,30

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	. 40°C (104°F)	(3a)	Ì	36	Idle spee	
2	:m ³ /~1000 strokes	rev/min 3	rev/min	cm³/-1000 strokes	rev/min	Control rod travel cm ³ /1000 strokes / mm
1150	0,7 bar 153,0-155,0 (150,0-158,0)	-	LDA 750	0,7 bar 171,0-174,0 (168,0-177,0)	100	140,0-160,0 (136,0-164,0)
			LDA 500	0 bar 139,0-141,0 (136,0-144,0)		

Checking values in brackets

MB 14,6 q 3

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure ' ~

Pump/gcvernor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 8PLS 3807-10 +RQ PA 546-4	0	0,45 0,50	10,3-10,5 10,4-10,5 10,8-11,0

Notes:

(1) when n =

rev/min and gauge pressure =

WPP 001/4 MB 14.6

1. Edition

PE 8 P 120 A 320 LS 3807-10

RQ 300/1150 PA 546-5

supersedes

Komb.-Nr. 0 401 848 761 1-8-7-2-3-5-4 je 45° ± 0,5 ° (± 0,75 °)

company: Daimler-Benz

OM 422 LA engine:

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3,95-4,15)

mm (from BDC) Zy1. 8

Retational speed rev/min 1	Control rod travel	Fuel delivery 5 cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control vaive) mm 6
1150	11,1+0,	1 16,7-15,9	0,5(0,9)			
300	5,4-5,6	1,2-2,0	0,8 (1,2)			
750	-	C, Sp. 4 u. 5	0,8 (1,2)			
500		,				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che		Full-load : Setting po		-	cifications (4	idle spe	ed regula		ecifications (5)	Torque	
rev/min	Control rod travel mm	rev/min 3	Control rod travel mm 4	Control red travel mm	rev/min	rev/min	Control rod travel		Control rod	rev/min	Control rod travel mm
600	19,2-20,8	600	20,0		1195-121 1255-128		5,5	100 300	min. 6,5 5,4-5,6	1150 750	11,1-11,2 11,6-11,8
VH =	max. 46 °			1350	0 - 1,5				15 = 2,0		
									·		
			0 2		L			05 40	1		

Torque-control travel on flyweight assembly dimension a =

1195-1210 min

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics 3b	Starting f	uel delivery
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes	rev/min 6	Control rod travel cm ³ /1000 strokes:/ mm
LDA 1150	0,7 bar 167,0-169,0 (164,0-172,0)	-	LDA 750 LDA 500	0,7 bar 181,0-184,0 (178,0-187,0) 0 bar 140,0-142,0 (137,0-145,0)	100	140,0-160,0 (136,0-164,0)

Checking values in brackets

MB 14,6 q 2

- 2 -

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pum	p/governor	Setting	Measurement	diminution Control rod travel- difference
		Gauge pressure = b	Gauge pressure = bar	mm (1)
	8 PLS 3807-10 RQ PA 546-5	0	0,41 0,49	10,5-10,7 10,8-10,9 11.4-11,6
	•			

Notes:

(1) when n =

rev/min and gauge pressure =

WPP 001/4 MB 11,0 e

5. Edition

PE 6 P 120 A 320 LS 3810

RQV 350-1150 PA 553

supersedes 9.83

company Daimler-Benz

engine. 0M 421 A

198 kW (269 PS) Komb.-Nr. 0 401 846 736

1 - 6 - 3 - 5 - 2 - 4 0 -75 -120-195-240-315° [±] 0,5° ([±] 0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

20rt closing at prestroke (3,95-4,15) mm (from BDC) Zy1. 6
Rotational speed Control rod Fuel delivery Difference Control rod

Rotational	spead	Control rod travel	Fuel delivery	Difference	Control rod travel	Fue! delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	1	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes	mm 6
1130	4	11,5+0,1	17,2-17,4	0,5(0,9)			
350	8 /3°	4,6-4,8	Values on assembly	0,8(1,2) ly apply 1 1 688 901 680 750 0	o test n 019 and	ozzle-and-holde fuel-injection	er test

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	peed			Intermediate	rated sp	eed	Lower rated	speed		Ci.dia.	
Degree of deflection of control	rev/min Control rod travel	(raver		Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Sliding	sleeve travel
lever	mm 2		20)	lever	rev/min 5	mm 4	lever	rev/min	mm 3	rev/min	mm
ļ	 	<u> </u>		-	3	0	<u> </u>	18	9	10	111
max.	1180	15,2-17,8	3	-	-	-	ca. 12	100	min.6,5	300	1,0-1,2
ca. 64	10,5	1170-1180	0		·			350	4,6-4,8	580	3,6-3,8
	4,0	1245-1275	5				į			870	5,4-5,6
	1400	0-1,0	-				385-505			1150	8,2

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

1	d stop np. 40°C (104°F) 2	intermediate speed	Fuel deliv	30)	Starting Idle switchin	` `	Torque- travel	Control roo
rev/min	cm³/1000 strokes	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm% ∂00 strokes	rev/min	
1	2 *	3	4	5	6	7	8	9
1130	172,0-174,0 (169,0-177,0) 1170-1180*))	-	-	100	160,0-180,0 (156,0-184,0		-
		•						

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 MB 14,6 f 2

1. Edition

Εn

PE 8 P 120 A 320 LS 3811-10 RQ 300/1150 PA 556 Komb.-Nr. 0 401 848 734 1-8-7-2-6-3-5-4 je 45 ° ± 0,50 (± 0,75 °) Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67

supersedes

company Daimler-Benz engine: OM 422 A 243 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3,95-4,15)

mm (from BDC)Zy1. 8

		(3,33-4,13)				
Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	10,4+0,	16,2-16,4	0,5(0,8)			
300	5,0-5,2	1,4-2,2	0,8(1,2)			
600	_	C, Sp. 4 + 5	0,8(1,2)			
	:					
	<u> </u>	. gu (A.	_ [<u> </u>		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking of sli⊇er Full-load speed regulation (dle sp				Idle spec	dle speed regulation				control		
PRG che	(• /	Setting po			cifications (4)	Setting p		Test spe	cifications (5)		3
	Control rod travel		Control rod travel	Control rod travel			Control rod travel		Control rod		Control rod travel
rev/min	mm .	rev/min	mm	mm ·	rev/min	rev/min	mm	rev/min	mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11	12
600	19,1-20,8	600	20,0		1195-1210	300	4,6		min. 6,2		-
VH =	max. 46 °			4,0	1215-1245				4,5-4,7 $360 = 2,0$		
									<u> </u>		

Speed regulation: At

Torque-control travel on flyweight assembly dimension a =

mm

1195-1210 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	I-71	Starting fuel delivery Idle speed			
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes	rev/mi	rod travel			
1150	162,0-164,0 (159,0-167,0)	-	600	152,0-158,0 (149,0-161,0)	100	125,0-145,0 (121,0-149,0)			

Checking values in brackets

WPP 001/4 MB 14,6 f 1

1. Edition

PE 8 P 120 A 320 LS 3811-10 RQ 300/1150 PA 556-1 Komb.-Nr. 0 401 848 759 1-8-7-2-6-3-5-4 je 45 ° $^{+}$ 0,5 ° ($^{+}$ 0,75 °)

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67

company Daimler-Benz OM 422 A engine: 243 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC) Zvl. 8

		3,33-4,137		27 2 0		
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve)
1150	10,4+0,1	16,0-16,2	0,5 (0,8)			
300	5,0-5,2	1,4-2,2	0,8 (1,2)			
600	-	C, Sp. 4 u. 5	0,8 (1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider	Full-load				Idle spe				Torque	control	_
rev/min	Control rod travel	Setting portions of the setting portion portions of the setting portions of the setting portions of th	Control rad travel mm	Control red travel mm 5	rev/min	Setting previous reviews revie	Control rod travel	rev/min	control rod Control rod travel mm 10	rev/min	Control rod travel	3
600	19,1-20,8	600	20,0	9,4 4,0	1195-1210 1215-1245	300	4,6		min. 6,2	-	60	
VH	= max. 46 °			4,0	1215-1245			300 320-:	4,5-4,7 $360 = 2,0$			

Torque-control travel on flyweight assembly dimension a =

1195-1210 min-1 Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stoo	Fuel deliv	ery characteristics (3b)	Starting f	
rev/min	cm³/-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	Control (all travel cm ³ /1000 strokes / mm
1150	160,0-162,0 (157,0-165,0)		600	150,0-156,0 (147,0-159,0)	100	125,0-145,0 (121,0-149,0)

Checking values in brackets

Test Specifications Fuel Injection Pumps 2 WPP 001/4 MB 14,6 r and Governors

1. Edition

PE 8 P 110 A 320 LS 3813-10

RQ 300/1150 PA 187-3

Komb.-Nr. 0 401 848 764

Daimler-Benz company: OM 422

engine

1-8-7-2-6-3-5-4 je 45 ° $\frac{+}{-}$ 0,5 ° ($\frac{+}{-}$ 0,75 °)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3.95-4.15)

mm (from BDEy1. 8

		(0,30-4,10)		,		
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1150	11,7+0,1	13,3-13,5	0,4(0,8)			
300	7,9-8,1	1,5-2,1	0,4(0,7)			
600	-	C, Sp. 4 u. 5	0,8 (1,1)			·
_					•	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	Control rod 1 travel	Full-load s Setting po rev/min 3	Control rod travel rmm 5	rev/min 6 1195 - 1210 1230 - 1260		Control rod travel	rev/min 9 100 300	min.10,2 8,0-8,2	rev/min	Control rod	3
			1350	0 - 1,5	,		420-4	6Ó = 2,0 max. 1,8			

Torque-control travel on flyweight assembly dimension a =

1195-1210 min-1

rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics (3b)			
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes	rev/min 6	Control rod travel cm ³ /1000 strokes:/ mm	
1150	132,5-134,5 (130,0-137,0)	600	600	109,5-115,5 (106,5-118,5)	100	130,0-150,0 (126,0-154,0)	
						,	

Checking values in brackets

estoil-ISO 4113

40

WPP 001/4 MB 10,0 c

1. Edition

En

PES 5 P 120 A 720 LS 7101 RQ 300/1050 PA 690 Komb.-Nr. 0 402 745 800 1-3-5-4-2 je 72° ± 0,5° (± 0,75°) Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67

supersedes-

company: Daimler-Benz engine OM 429 LA

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump₃Settings

Port closing at prestroke

(5,15-5,35)

mm (from BDcZyl. 5; RW = 9,0-12,0 mm

Rotational speed rev/min : 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travei mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1050	13,8+0,1	20,3-20,5	0,5(0,9)			
300 900 500	6,0-6,2	1,2-2,0 C, Sp. 4 u. 5	0,8(1,2) 0,8(1,2			
	ļ					

Adjust the fuel Jelivery from each outlet according to the values in

B. Governor Settings

Checking PRG che	g of slider	Full-load : Setting po	•	_	cifications (4)	Idle spec	_		cifications (5)	Torque d	control	(3)
rev/min	Control rod travel mm	rev/min 3	Control rod travel rmm	Control red travel rmm -	rev/min	rev/min 7	Control rod travel mm 8	rev/min	Control rod travel mm 10	rev/min	Control rol travel mm 12	d)
600	19,2-20,8	600	20,0	12,8	1095-1110	300	6,1	100	min.7,7	-	-	
VH =	max. 46°			4,0 1300	1145-1185 0-1,5			1	6,0-6,2 20 = 2,0			

Torque-control travel on flyweight assembly dimension a =

mm

1095-1110 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	rery characteristics	Starting f	uel delivery d 1 Control
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes	rev/min	rod trave cm³/1000 strokes√ mm 7
LDA 1050	0,7 bar 203,0-205,0 (200,0-208,0)	-	LDA 900	0,7 bar 206,0-210,0 (203,0-213,0)	100	160,0-180,0 (156,0-184,0)
LDA 600	0,7 bar 199,0-203,0 (196,0-206,0)		LDA 500	0 bar 155,0-157,0 (152,0-160,0)		

Checking values in brackets

MB 10,0 c

- 2 -

Test at n =

500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES 5 PLS 7101 +RQPA 690	0,70	0 0,35 0,24	13,8-13,9 11,8-12,0 13,3-13,4 12,2-12,5

Notes

(1) when n =

rev/min and gauge pressure =



WPP 001/4 MB 11,0 i 2

1. Edition

PE 6 P 110 A 320 LS 3805 -10 Komb.-Nr. 0 401 846 756 ROV 300-1880 PA 524-6 1- 6- 3 - 5 - 2 - 4 0-75-120-195-240-315° ± 0,5° (± 0,75 °)

supersedes comp Daimler-Benz OM 421 engine 148 kW (201 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed rev/min	travel		Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve)
1150	12,6+0,1	12,7-12,9	0,4 (0,8)			
300	8,7-8,9	1,6-2,2	0,4 (0,7)			
600	-	C, Sp. 4 u. 5	0,6 (0,8)			
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated:	speed	•		Intermediate	e rated sp	eed		Lowe	r rated	speed				
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min	1a) (2a)	Degree of deflection of centre! lever	rev/min 5	Contro travel mm	ol rod	Degree deflect of con lever	ee of	rev/min	Contro travel mm	ol rod	Sliding s	mm
max.	1190	15,2-17	7,8	-	-		•••	ca.	23			10,4	300	1,6-1,8
ca. 55	11,6 4,0 1500	1190-12 1240-12 0 - 1,0	270						•	300 420-4	8,7- 80 =		1200	5,8-6,2 8,2-8,4 10,0
								(3a)						

Torque control trave! a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (2t limitation intermediate speed	Fuel deli high idle	very characteristics 5a	idle	fuel delivery 6	Torque travel	control (5
rev/min 1	crh³/1000 strokes .	rev/min 48	rev/min	cm ³ /1000 strokes		cm ³ /1000 strokes	rev/min	
1150	127,0-129,0 (124,0-132,0		600	104,5-108,5 (101,5-111,5	100	130,0-150,0 (126,0-154,0		-

Checking values in brackets

1 mm less control rod travel than col. 2 4.85

40

WPP 001/4 MWM 3,9 b 1

1. Edition

PES 4 A 80 D 320 RS 1282-1

RS 350/1500 A 2 B 2073-2 R

Komb.-Nr. 9 400 085 243

supersedes Compan D 229-4 engine

ISO 411

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,65-2,75
Port closing at prestroke (2,60-2,80)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control roa	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/miñ	mm (2)	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ² /100 strokes	mm
1	2	3	د	2	3	6
1500	9,2-9,3	5,7-5,8	0,25(0,4)			
350	5,9-6,1	0,8-1,1	0,2(0,35)			
]				
		ĺ			re t	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel	rev/min Centrol rod travel	Interme	diate rated	Control-				3 Torque control Control rod	
deflection of control lever 1	mm 2	mm rev/min	4	5	6	lever deflection in degrees 7	rev/min	mm	rev/min	travel mm 11
loose	800	0,3-1,0	••	-	-	FH ca.32	350	6,0	1500	9,2-9,3
	X =						300 400	6,6-7,2 4,8-5,6	500 900	10,9-11,0 10,5-10,7
H max. H ca.64	8,3 4,0 1700	1540-1550 1585-1615 0,3-1,7					550 1450		1200	9,8-10,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(49)	emp. 40°C (104°F)	6 Rotational- speed limitat	11.00	uel delivery paracteristics	Starting t	fuel delivery 5	da idle slop		
rev/min	cm ³ /1000 strokes	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control root travel mm	
500	57,0-58,0 (55,5-59,5)	1540-1550*	500	62,0-64,0 (60,0-66,0)	100	19,0-21,0 mm RW	-	-	
			900	65,0-67,0 (63,0-69,0)		1	·		

Checking values in brackets

* 1 mm less control rod travel than col. 2

40

WPP 001/4 KHD 1 g 17

1. Edition

En

PES 4 A 80 D 410/3 RS 1300

RSV 325-1175 A 8 C 657-1 L

supersedes companyKHD

Komb.-Nr. 0 400 464 129

engine F 4 L 912 Schlepper DX 3.70

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,85-2,05)

mm (from BDC)

		2	3	6
,1 5,8-5,9	0,25(0,4)			
,6 1,1-1,7	0,2 (0,3)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

K ' J ' '	er rated speed		Interme	diate rated	speed	4	Lower	rated speed	(3) To	rque control
Degree of deflection of control lever	Control rod travei mm	Control rod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm 9	rev/min	Control rod travel mm
loose	800	0,3-1,0	-	-	-	ca. 17	325	8,0	1 175	10,8-10,9
	X =	4,0					325	8,4-8,6		11,6-11,7
ca. 51	9,8 4,0 1400	1215-1225 1260-1290 0,3-1,4					445-505	=2,0	1025	11,2-11,4

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat.	110721	uel delivery naractenstics	Starting fuel delivery 5 del Idle stop				
rest oil to	emp. 40°C (104°F) cm ³ /1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm	
1175	58,0-59,0 (56,5-60,5)	1215-1225*	800	56,0-58,0 (54,0-60,0)	100	120,0-13 (117,0-13 =19,5-21, mm RW	B,O)	-	

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

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40

WPP 001/4 VMA 14,9 a

1. Edition

PES 8 A 90 D 410 LS 2373

RSV 250-750 A 1 B 623 L

supersed<u>e</u>s

Komb.-Nr. 0 400 878 008

1-8-7-2-6-5-4-3 je $45^{\circ} + 0.5^{\circ} + 0.75^{\circ}$

compan Motor: VM engine V 130/8

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

3,3-3,4 (3,25-3,45)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
750	10,5+0,1	9,0-9,1	0,3			
250	6,4-6,6	1,0-1,6	0,25			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	er rated speed		Interme	diate rate	d speed	(4)	Lower	rated speed	(3) To	rque control
Degree of deflection of control lever 1	Control rod travel mm	Control rod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm ~	rev/min	Control rod travel mm
loose	800	0,3-1,0	-	-	-	ca. 18	250	6,5	750	10,5-10,6
	X=	4,0	j				250	6,4-6,6	450 300	10,5-10,6 11,8-12,4
ca. 47	9,5 4,0 965	790-860 800-830 0,3-1,7					255-31	=2,0 **		

The numbers denote the sequence of the tests

**Set idle auxiliary-spring at 2 mm control-rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	emp. 40°C (104°F)	Rotational- speed limitat.	nel delivery aractenstics				e stop Control rad	
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9
750	89,5-90,5	790-800*	-	•• •	79	-	, est	tio .

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

WPP 001/4 VMA 4,9 a

En

PES 4 A 90 D 410 RS 2510

ER/RSV 250-900 A1 B1029L

supersedes -

1. Edition

Komb.-Nr. 0 400 874 215

Motori VM company VM 114

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

3,30-3,40

(3,25-3,45) RW 9 mm (from BDC) RW=7,5-10,5 mm

Port closing difference between control-rod travel 9 mm and max. 6,0-7,5° camshaft

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm²/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm-/100 strokes 3	Spring pre-tensioning (torque-control valve) rnm 6
880	10.5+0.1	6.6 - 6.7	0,3(0,45)			
250	8,0-8,5	0,6 - 1,2	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	er rated speed		interme	diate rated	te rated speed (4) Lower rated sp		-	(3) To	rque control	
Degree of deflection	travel	Control rod				Control- lever		Control rod travel		Control rod travel
of control lever	mm 2	mm rev/min	4	5	6	deflection in degrees 7	rev/min	mm	rev/min	mm 11
12000	000			1	1-					
loose	800	0,3-1,0	-	-	-	ca. 24	250	5.5	880	10,5-10,6
	X =	3,0	ļ					min.19	450	10,5-10,7
ca.48		920-930					250 330 -	5,9-6,1 360 =2,0	300	11,7-12,3
(2a)	1100	955-985 0,3-1,7		_			450	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp. 40°C (104°F)	6 Rotational- speed limitat		uel delivery naracteristics	Starting I	uel delivery 5	(4a) Idi	e stop
rev/min	cm ³ /1000 strokes	Note- changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm
880	66,0 - 67,0 (64,0 - 69,0)	920-930 *	-	-	-	-	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

3.85

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WPP 001/4 VMA 7,3 a

1. Edition

En

PES 6 A 90 D 410 RS 2511 Komb.-Nr. 0 400 876 262

Port closing at prestroke

ER/RSV 250-900 A1 B1029L

supersedes "

company

Motori VM VM 116

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

3,30-3,40

(3,25-3,45)

mm (from BDG) RW=7,5-10,5 mm

Port closing difference between control-rod travel 9 mm and max. 6,0-7,5° camshaft

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ^{1/100} strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm:/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
880	10,5+0,1	6,6 - 6,7	0,3(0,45)			
250	8,4-8,6	0,8 - 1,4	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed		Interme	diate rate	d speed	(4)	Lowe	r rated speed	(3) To	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travet mm rev/min 3	4	5	6	Control- tever deflection in degrees 7	rev/min	Control rod travei mm	rev/min	Control rod travel mm
loose	800	0,3-1,7	-	-	-	ca. 17	250	8,0	880	10,5-10,6
	x = 3	3,0					100	min.19,5	450	10,5-10,7
ca.44	9,5 4,0 1100	920-930 955-985 0,3-1,7					250 415 <i>- 4</i>	8,4-8,6 475 = 2,0	300	11,7-12,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat.		nel delivery paractenstics	Starting f	uel delivery 5	4a Idle stop	
	emp. 40°C (104°F) cm³/1000 strokes 2	Note- changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm
880	66,0 - 67,0 (64,0 - 69,0)	920-930 *	-		-	-	250	8,5

Checking values in brackets

* 1 mm less control rod travel than col 2

3.85

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Test Specifications Fuel Injection Pumps 1 WPP 001/4 MAN 16,0 d and Governors

9. Edition

PE10A90D520/5 LS 2515 Testoil-ISO

ROV 250-1250 AB993DR RO 250/1250 AB832DR ./. RQ 250/1250 AB992DR ./. supersedes, 85 company MAN engine: D 2530 MF

10 - 9 - 4 - 1 - 8 - 7 - 6 - 3 - 5 - 2 $0 -45-72-117-144-189-216-261-288-333^{\circ} \stackrel{+}{-}0,5^{\circ}(0,75^{\circ})$ All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1.45-1.65)

mm (from BDC)

Zv1. 10

Rotational speed rev/min	Control rod travei mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	11,5-11	6 10,2 - 10,3	0,3(0,45	11,5-11,	5 10,3-10,4	
250 800/500	7,4-7,6	0,9- 1,5 C, 4-5 -	0,2(0,4) 0,4(0,55)		0,9- 1,5	i

Adjust the fuel delivery from each outlet according to the values in [

Testoil-ISO 4113

B. Governor Settings

ROV..993 DR

Upper rated s	peed	•		întermediate	rated spe	bed	Lower rated	speed		Stidings	leeve travel
deflection of control	rev/min Control rod travel	mm ((6)	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		1
lever 1	mm 2	rev/min (3	28)	lever 4	rev/min 5	rnm (4)	lever 7	rev/min 8	mm (3)	rev/min 10	mm 11
max.	1275	14,4-17,	4	-		**	ca.13	100 250 310-3	min.7,2 5,6-5,8 70 = 2,0	200 700 270	0,5-1,2 4,4-4,8 8,3
ca.48	10,5 4,0	1290-13 1365-13				,		450	0 - 1		
	1450	0 - 1	,0				3a				

Torque control travel a = 0,6+0, mm

C. Settings for Fuel Injection Pump with Fitted Governor

kes rev/min	travel mm
8	9
5,0 1250 RW 900	11,5+0 11,9+0
500	12,3+0
	900 500

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. G	overnor S	ettin	gs					RQ	MAN 832 DR	16,0 d	- 2
Checkin PRG che rev/min 1	Control rod travel	Full-load Setting p rev/min 3	Control	Test spe Control Frod travel mm	rev/min	idle spe) Setting rev/min 7	Point Control 1 rod travel	Test spe	Control rod	rev/min	Control rod (3
600	15,6-16,4	600		10,5 4,0 1500	1295-1310 1345-1375 0 - 1,0	1	6,1	100 250	min.7,6 6,0-6,2 120 =2,0 0 - 1	-	•

Torque-control travel on flyweight assembly dimension a =

Speed regulation At 1295-1310 min-1

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting I	duel delivery 6
rev/min	cm³/-1000 strokes	rev/min 3	rev/min	cm³/-1000 strokes	rev/min	rod travel cm ³ /1000 strokes / mm 7
1250	101,5 - 102,5 (99,5 - 104,5)		500	78,0 - 86,0 (76,0 - 88,0)	100 250	129,25 - 139,25 7 mm RW
		٥				

Checking values in brackets

Testoil-ISO 4113

B. Governor Settings

RQ..992 DR

Checkin PRG che	g of slider	Full-load :			cifications (4)	ldle sper	-		cifications (5)	Torque (control (3)
rev/min	travel mm	rev/min	Control rod travel i mm	Control red travel mm	rev/min	rev/min	Control rod travel mm	rev/min	Control rod travel mm	rev/min	Control rod travel mm
600	15,6-16,4	600_1	6,0 1		1295-1310	250 6	,0	-			11,5-11,6
				4,0	1365-1395			250 5	,9-6,1	1000	11,8-12,0
	•			1500	0 - 1,0			360-40 500	0 =2,0 0 - 1	600	2,2-12,4
	ontrol travel		0,25	mm	Soo	ed regula		<u> </u> 295–1	310 min		1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

rev/min	cm ³ /=1000 strokes-					Con
1	2	rev/min	rev/min	cm ³ /-1000 strokes	rev/min	cm ³ /1000 strokes / mr
250	102,5 - 103,5 (100,5 - 105,5)	-	800 500	95,5 - 98,5 (93,5 - 100,5) 90,0 - 94,0	=	135,0-145,0 (132,0-148,0) 18,3-19,3 m RW
				1 .	250 !	7,0 mm RW

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 FOR 6,6 a 1

1. Edition

PES 6 A 95 D 410 RS 2688

ROV 350-1300 AB 1208 L

supersedes -

Komb.-Nr. 9 400 085 232

company: Ford

6,6 1 TC engine:

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 3,15-3,25

	travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1300	12,1-0,1	8,6 - 8,8	0,35(0,6)			
350	6,9-7,1	1,0 - 1,4	0,35(0,55)		

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

1	rev/min	Control rod (18	Intermediate	e rated sp	eed Control rod	Lower rated Degree of	speed	Control rod	Sliding s	leeve travel
	Control rod travel mm 2	uaver C	deflection of control lever 4	rev/min 5	mm 4	deflection of control lever 7	rev/min 8	mm 3	rev/min	mm 11
max.	1345	15,2-17,8	-	-	-	ca. 18	100	min.10,0	300 1	,3-1,5
ca. 62	11,1 4,0	1340-1350 1460-1490					350 670-	6,9-7,1 730 =2,0		3,5-3,7 5,9-6,1
	1600	0 - 1,0				400-500 ③			345	8,6

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		intermediate speed		Idie	fuel delivery 8	Torque-control (travel			
rev/min	cm³/1000 strokes	rev/min	49)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	
LDA 1300 LDA 600	0,5 bar 86,0-88,0 (84,0-90,0) 0,5 bar 83,0-86,0 (80,5-88,5)	1340 -	1350*	LDA 900 LDA 600	0,5 bar 86,0-89,0 (83,5-91,5) 0 bar 57,0-59,0 (55,0-61,0)	100	115,0-125,0 = 20,0- 21,0 mm RW	600 800	12,1+0, 12,8+0, 12,6+0,2 12,4+0,3

Checking values in brackets

* 1 mm less control rod travel than cot. 2

FOR 6,6 a 1

- 2 -

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES6ARS 2688 +RQVAB 1208 L	0,50	0 0,40 0,25	12,8 - 12,9 10,6 - 10,7 12,2 - 12,3 11,0 - 11,2

Notes.

(1) when n =

rev/min and gauge pressure =

40

WPP 001/4 DAF 6,2 o

1. Edition

En

PES 6 A 95 D 320 RS 2693

RSV 300-1300 A 2 B2195 R

supersedDAF

Komb.-Nr. 0 400 876 327

Values apply to fuel-injection test tubing 1 680 750 015

companyDNT 620

engine 130 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(1,95-2,15)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
850	11,5+0,1	7,6-7,8	0,35(0,45)			
300	6,1-6,3	0,7-1,1	0,35(0,55)		,	
	1	ļ		1		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed		Interme	diate rated	speed	(4)	Lower	rated speed	(3) To	rque control
Degree of deflection of control lever	Control rod travel mm	travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	800	0,3-1,0	-	-	-	ca. 17	300	5,7	1290	
	X	= 3,75					300	6,1-6,3	500	11,6-11,7
ca.49	10,0 4,0 1590	1330-1340 1430-1460 0,3-1,7			•		670-7	30=2,0		11,4-11,5

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop		speed limitat characteristics			Starting fuel delivery 5 4a Idle stop			
rev/min	emp 40°C (104°F) cm ³ /1000 strokes 2	Note. changed to .) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm³/1000 strokes	rev/min 8	Control rod travel mm	
LDA 850	0,7 bar 76,0-78,0 (74,0-80,0)	330-1340*	LDA 1290 LDA 600	0,7 bar 75,5-78,5 (73,0-81,0) 0 bar 65,0-67,0 (63,0-69,0)	100	130,0-140 (127,0-143 =19,5-21, mm RW	,0)	6,2	

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

DAF 6,2 o

- 2 -

Testatn =	600	rev/min decreasing pressure - in bar gauge pressure
-----------	-----	---

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 ARS 2693 + RSVA 2 B 2195	0,70 R	0 0,25	11,5-11,6 11,2-11,4 11,4-11,5

Notes:

(1) when n =

rev/min and gauge pressure =

WPP 001/4 DAF 11,6 k 12

1. Edition

PE 6 P 110 A 320 RS 372/Y

RSV 250-1100 P 5/458 R

Komb.-Nr. 0 401 876 235/Y

supersedes companyDAF engine DKA 1160 Port closing difference $= 0.9 - 1.0 \, \text{mm}$ between control-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,80-2,90

Port closing at prestroke

(2.75-2.95)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
850	11,1-11,2	11,5-11,7	0,4(0,75)			
250	6,6-6,8	0,7-1,1	0,4(0,75)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm		Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
loose	800	0,3-1,0	-	-	_	ca. 21	250	6,2	400	11,3-11,4
	X =						250	.6,6-6,8	300	11,5-12,0
23. 51	10,1 4,0 1425	1140-1150 1275-1305 0.3-1,7					640-700	= 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp 40°C (104°F)	6 Rotational- speed limitat	(3a) Fu	iel delivery naracteristics	Starting f	uel delivery 5	4	e stop
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ^{3/1} 000 strokes 5	rev/min	cm ³ /1000 strokes 7		Control rod travel mm 9
850	114,5-116,5 (111,5-119,5)	1140-1150*	-	-	100	245,0-285 RW = 19,5 - 21,0 mm		6,7

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 AEC 12,0 a 1

2. Edition

PE 6 P 120 A 320 RS 298 Z Komb.-Nr. 0 401 846 389

RQV 250-1100 PA 277 R

superseder . 84 company: AEC

engine: TL 12/10

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke	3,4-3,5 (3,35-3,55)	mm (from BDC)	RW = 9	0-12,0 mm	
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	14,0+0,1	20,0-20,2	0,5(0,9)			
250	7,7-7,9	1,6-2,0	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

Upper rated s	peed			Intermediate	rated sp	eed	Lower rated	speed		Clidian	Nagua tanunt
deflection	re./min Control rod traval	Control rod travel mm	9	Degree of deflection of control		Centrol rod travel	Degree of deflection of control		Control rod travel	Sildings	sleeve travel
		rev/min 3	(29)	lever 4	rev/min 5	mm (4)	lever	rev/min	mm 3	rev/min	mm 11
max.	1100	15,2-17,	8	-	-	-	ca. 34	100	min. 9,2	-	0,9-1,2
ca. 61	13,0 4,0 1350	1140-115 1210-124 0-1,0	10					250 420-4	7,7-7,9 180 = 2,0	500	3,7-3,9 5,2-5,6 7,9
							30				

Torque control travel a = -- mr

C. Settings for Fuel Injection Pump with Fitted Governor

elivery d stop np. 40°C (104°F) 2	Rotational-speed (2b) limitation intermediate speed	Fuel deliv	rery characteristics 5a poeed 5b	Idle		Torque- travel	control 5
cm ³ /1000 strokes .	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
12	3	4	5	6	7	8	9
0,7 bar 200,0-202,0 (197,0-205,0)		LDA 1100	0 bar 176,0-180,0 (174,0-182,0	- 250	- 16,0-20,0	-	•
	d stop np. 40°C (104°F) 2 cm³/1000 strokes 2 0,7 bar 200,0-202,0	imitation intermediate speed cm³/1000 strokes rev/min 3 0,7 bar 1140-1150*	stop limitation high idle s limitation high idle s cm³/1000 strokes rev/min 3 4 0,7 bar 200,0-202,0 1140-1150* LDA 1100	d stop fimitation fintermediate speed	Stop Stop	d stop limitation high idle speed switching point cm³/1000 strokes cm³/1000 strokes 2 3 4 5 6 7 140-1150* LDA 0 bar - -	d stop limitation high idle speed 5b ldle switching point rev/min 2 3 4 5 6 7 8 1 1 1 1 1 1 1 1 1

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

AEC 12,0 a 1

- 2 -

Test	at	n	=

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rad travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 PRS 298 Z + RQVPA 277 R	0,70	0 0,50 0,45	14,0-14,1 12,4-12,5 13,5-13,6 12,9-15,1

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

WPP 001/4 STE 10.0 b

8. Edition

PE 6 P 110 A 721 RS 369

RQ 300/1300 PA 412 DR

supersedes84 compan\$teyr engine WD 615.60

Komb.-Nr. 0 401 856 142

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod ravel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1300	12,5+0,1	11,7-11,9	0,4(0,75)			*
250	9,3-9,5	1,8-2,4	0,4(0,7)			
		·				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min 1	Control rod	Full-load: Setting po rev/min 3		-	rev/min	Idle spec Setting p rev/min 7	Control red travel		cifications 5 Control rod travel	Torque	Control rod (3)
600	15,6-16,4	600	16,0		1345-1360 1405-1435 0-1,0	300	6,0	300	min.7,4 5,9-6,1 30=2,0	300 700 900	12,5-12,6 13,2-13,3 12,9-13,1 12,6-12,7
Yaanu a.a	Ontrol travel		0.35				12/		0 ====1		

on flyweight assembly dimension a

1345-1360 min Speed regulation: At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics		Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes	6	ev/min	Control rod travel cm ³ /1000 strokes:/ mm	
1300	0,7 bar 117,0-119,0 (114,0-122,0)	-	LDA 700	0,7 bar 107,0-111,0 (104,0-114,0)	1	100	115,0-135,0	
			LDA 700	0 bar 100,0-102,0 (97,0-105,0)				
	<u> </u>							

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

STE 10,0 b

- 2 -

T	- 4	_	_
Test	aı	n	7

500

rev/min decreasing pressure – in bar gauge pressure

'ump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 PRS 369 + RQPA 412 DR	0,70	0 0,31 0,27	13,2-13,3 12,8-12,9 13,1-13,2 12,9-13,1

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

G5

WPP 001/4 DAF 11,6 i 3

PE 6 P 110 A 320 RS 372/W

RSV 250-1100 P 5/458 R

supersedes

2. Edition

Komb.-Nr. 0 401 876 235/W

DAF company

DKT 1160 206 kW engine

Port closing difference = 0.9 - 1.0 mm betweencontrol-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,80-2,90 (2,75-2,95)

mm (from BDCbei RW = 9.0 - 12.0 mm.

Rotational speed revimin	Control rod travel	Fuel delivery cm ^{1/4} 00 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (forque-control valve) mm
850 ··	12,8+0,1	15,3 - 15,6	0,4 (0,75)			
250	7,0-7,2	1,0 - 1,4	0,4 (0,75)			•

Adjust the fue! delivery from each outlet according to the values in

B. Governor Settings

11 / /	rated speed rev/min Control rod travel mm rev/min 2 3					Control- lever deflection in degrees 7		1		rque control Control rod travel mm
loose	800 x	0,3-1,0 =	•	-	-	ca. 21	250	6,6	400	13,0-13,1
ca.51	11,8 4,0 1425	1140-1150 1275-1305 0,3 - 1,7					250 710-770	7,0-7,2 = 2,0	300	13,2-13,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	emp 40°C (104°F)	Rotational- speed limitat				fuel delivery 5	4a) Idle stop	
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
LDA 850	0,7 bar 152,5-155,5 (150,0-158,0)	1140-1150*	LDA 600	0 bar 127,5 - 130,5 (124,0 - 134,0)		245,0-285, RW = 19,5 - 21,0 mm		7,1

Checking values in brackets

* 1 mm less control rod travel than col. 2

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D. Adjustment Test for Manifold Pressure Compensator

DAF 1196 i 3

- 2 .

Test at n =

600

rev/min decreasing pressure – in bar gauge pressure

Setting	Measurement	Control rod travel-
Gauge pressure = bar	Gauge pressure = bar	difference mm (1)
0,70		12,8 - 12,9
•	0,35	12,5 - 12,6
	0	11,4 - 11,5
	,	
	Gauge pressure = bar	Gauge pressure = bar Gauge pressure = bar 0,70

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

WPP 001/4 DAF 11,6 i 6 2. Edition

En

PE 6 P 110 A 320 RS 372/Z Komb.-Nr. 0 401 876 235/Z

RSV 250 - 1100 P 5/458 R

supersedes." DAF company **DKT 1160**

Port closing difference = 0.9 - 1.0 mm between control-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

fort closing at prestroke

Festoil-ISO 411

2,80-2,90 (2.75-2.95)

mm (from BDC)bei RW = 9,0 - 12,0 mm.

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes .	mm 6
850	12,3+0,1	14,3 - 14,6	0,4 (0,75)			
250	6,6-6,8	0,7 - 1,1	0,4 (0,75)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	Upper rated speed rev/min			ediate rate	d speed	4	Lowa	r rated speed	Torque control		
Degree of deflection of control lever	travel mm	travel mm rev/min				Control- lever deflection	rev/min	travel	rev/min	travel	
1	2	3	4	5	6	in degraes 7	8	9	10	11	
	800 (0,3-1,0] -	-		ca.21	250	5,2	400	12,5-12,6	
loose	X	=					250	6,6-6,8	300	12,7-13,2	
ca.51	11,3 4,0 1425	140-115 1275-130 0,3-1,7					640-70	= 2,0			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	of-load stop	Rotational- speed limitat	(3a) Fu	iel delivery paracteristics	Starting late	fuel dalivery 5	4a Idle stop	
	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes	revimin	cm/1000 strokes	rev/min	Control rod travel mm
LDA	0,70 bar	1140-1150*	LDA	0 bar	100	245,0-285,	250	6,7
850	142,5 - 145,5		600	127,5 - 130,5	5	RW = 19,	•	
	140,0 - 148,0)			(124,0 - 134,0)	- 21,0 mr	1 .	
	140,0 - 148,0)			(124,0 - 134,0		- 21,0 mr	1 .	

Checking varies in brackets

* 1 mm less control rod travel than col. 2

G8

D. Adjustment Test for Manifold Pressure Compensator

Testatin =

600

rev/min decreasing pressure - in bar gauge pressure

DAF 11,5 i 6

- 2 -

Pump/governor	Setting	Measurement	Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE6P RS 372/Z	0,70		12,3 - 12,4
RSV P 5/458 R		0,30	12,0 - 12,1
		0,26	11,6 - 11,8
		0	11,4 - 11,5

Notes:

(1) when n =

çauge pressure =

bar (= maximum full-load control rod travel)

40

WPP 001/4 DAF 11,6 k 9

1. Edition

En

PE 6 P 120 A 320 RS 372-1/X RSV 250 - 1000 P 5/458 Komb.-Nr. 0 401 876 261/X

company DAF DKX 1160

Port closing difference = 0,9 - 1,0 mm between

control-rod travel 9 mm and control-rod travel 21 mm

Spring pre-tensioning (torque-control valve)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,80-2,90 (2,75-2,95)

mm (from BDC)

		(-,. 0 2,00)			
Rotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery
rev/min	mm 2	cm ¹ /100 strokes	cm ³ / 100 strokes	mm	cm³/100 strokes
<u> </u>	-				3

850 11,4+0,1 20,5 - 20,9 0,5 (0,90)
250 6,2-6,4 1,1 - 1,5 0,8 (0,95)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Port closing at prestroke

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	3 To	rque control Control rod travel mm 11
loose	800 X =	0,3-1,0	-	-	***	ca.20	250 250	5,8 6,2 - 6,4	400 300	11,6 - 11, 11,8 - 12,3
2 a	10,4 4,0 1325	1035-1045 1155-1185 0,3-1,7	,				620-680	= 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	uil-load stop emp. 40°C (104°F)	6 Rotational- speed limitat	11 (3) (3)	nel delivery naracteristics	ivery Starting fuel enstics Idle		el delivery 5 4a Idie stop		
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strakes 7		Control rod travel mm 9	
LDA 850	0,7 bar 205,0 - 209,0 (202,0-212,0)	i	LDA 600	0 bar 139,0 - 143,0 (135,0 - 147,0)		320,0-360,0 RW = 19,5 - 21,0 mm	250	6,3	

Checking values in brackets

* 1 mm less control rod travel than col 2

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D. Adjustment Test for Manifold Pressure Compensator

DAF 11,6 k 9

Test atn =

600

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) ,
PE6P RS 372-1	0,70		11,4 - 11,5
RSV P 5/458		0,37	11,0 - 11,1
		0,30	10,3 - 10,7
		0	10,0 - 10,1
			,

Notes:

(1) when a =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

40

WPP 001/4 DAF 11,6 k 11

1. Edition

PE 6 P 110 A 320 RS 372-1/X

RSV 250-1100 P 5/458-1

supersedes DAF Company DKT 1160 A

Komb.-Nr. 0 401 876 254/X

Port closing difference = 0,9 - 1,0 mm between control-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,80-2,90 (2,75-2,95)

mm (from 8006 i RW = 9,0 - 12,0 mm.

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
1	mm (2)	cm ¹ /100 strokes 3	100 strokes	mm 2	cm ³ /100 strokes	mm 6
850	12,3+0,1	14,2 - 14,5	0,4 (0,75			
250	6,6-6,8	0,7 - 1,1	0,4 (0,75)		
			·			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		interme	diate rated	speed 6	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque controi Control rad travel mm
loose	800 x =	0,3-1,0	-	*		ca. 18	250 250	6,2 6,6-6,8	400 300	12,5-12,6 12,7-13,2
ca.48	11,3 4,0 1350	1140-1150 1200-1230 0,3-1,7					620-69	0 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	2b Full-load stop [est oil temp. 40°C (104°F) Ref Note:		tational- ted limitat (3a) Fuel delivery characteristics			Starting fuel delivery 5 4a Idle stolle		
rev/min	cm ³ /1000 strokes	note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes	rev/min	Control rod travel mm
LDA 850	0,7 bar 141,5 - 144,5 (139,0 - 147,0		LDA 600	0 bar 127,5 - 130,5 (124,0 - 134,0)	100	245,0-285 RW = 19,0 - 21,0 mm		

Checking values in brackets

* 1 mm less control rod travel than coi 2

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D. Adjustment Test for Manifold Pressure Compensator

DAF 11,6 k 11

-2-

Test	at	n	=

600

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = ba	Gauge pressure = bar	mm (1) .
PE6P RS 372-1	0,70		12,3 - 12,4
RSV P 5/458-1		0,30	12,0 - 12,1
		0,26	11,6 - 11,8
		0	11,4 - 11,5

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum fuli-load control rod travel)

40

WPP 001/4 DAF 11,6 k 13

1. Edition

<u>En</u>

PE 6 P 110 A 320 RS 372-1/Y

RSV 250-1100 P 5/458-1

supersedes compan DAF engine DKA 1160

Komb.-Nr. 0 401 876 254/Y

Port closing at prestroke

Testoil-ISO 4113

Port closing difference = 0,9 - 1,0 mm between control-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,80-2,90

(2,75-2,95)

mm (from BDC)

Control rod travel 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm-/100 strokes 3	Spring pre-tensioning (forque-confrol valve) mm
11,1-11,2	11,5-11,7	0,4(0,75)			
6,6-6,8	0,7-1,1	0,4(0,75)			
	mm 2 11,1-11,2	travel mm 2 cm ¹ /100 strokes 3 11,1-11,2 11,5-11,7	travel mm 2 cm³/100 strokes 2 11,1-11,2 11,5-11,7 0,4(0,75)	travel mm 2 cm ³ /100 strokes cm ³ /100 strokes mm 2 11,1-11,2 11,5-11,7 0,4(0,75)	travel mm 2 cm ³ /100 strokes 2 cm ³ /100 strokes 4 cm ³ /100 strokes 2 cm ³ /100 strokes 3 cm ³ /100 strokes 2 cm ³ /100 strokes 3

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed		Interme	diate rated	speed	(4)	Lower	rated speed	(3) To	rque control
Degree of deflection of control lever 1	Control red travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	800	0,3-1,0	•	-	40	ca. 21	250	6,2	400	11,3-11,4
	X =		ļ				250	6,6-6,8	300	11,5-12,0
2a. 51	10,1 4,0 1425	1140-1150 1275-1305 0,3-1,7					640-700	= 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop	6 Rotational- speed limitat		iel delivery paracteristics	Starting I	uel delivery 5	(4a) Idle	e stop
rev/min	emp 40°C (104°F) cm³/1000 strokes	Note: changed to) rev/min	rev/min	cm ³ /1000 strokes 5.	rev/min	cm ³ /1000 strokes	_	Control rod travel mm
850	114,5-116,5 (111,5-119,5)	11401150*	-	•	100	245,0-285 RW = 19,5 - 21,0 mm	0 250	6,7
							•	

Checking values in brackets

* 1 mm less control rod travel than col 2

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40

WPP 001/4 DAF 11,6 k 15 1. Edition

En

PE 6 P 110 A 320 RS 372-1/Z

RSV 250 - 1100 P 5/458-1

supersedes DAF

Komb.-Nr. 0 401 876 254/Z

company DKT 1160

Port closing difference = 0,9 - 1,0 mm between control-rod travel 9 mm

and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-SO

2,80-2,90 (2,75-2,95)

mm (from BDC) bei RW = 9,0 - 12,0 mm.

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning
rev/min 1	mm 2	cm ¹ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes	(torque-control valve)
850	12,8+0,1	15,3 - 15,6	0,4 (0,75			
250	7,0-7,2	1,0 - 1,4	0,4 (0,75			
					p , per q (-	·

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

17.7	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	intermed	diate rated	speed	Control- fever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
loose	800 X =	0,3-1,0	-	-	-	ca.21	250 250	6,6 7,0-7,2	400 300	13,0-13,1 13,2-13,7
ca.51	11,8 4,0 1425	1140-1150 1275-1305 0,3-1,7					710-770	= 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	(est oil temp. 40°C (104°F) (a) Full-load stop (b) Rotational-speed limitat		3a) Fu	uel delivery naracteristics	Starting I	fuel delivery 5	4a Idle stop		
	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control root travel mm 9	
LDA	0,7 bar	1140-1150*	LDA	0 bar	100	245,0-285	0 250	7,1	
850	152,5 - 155,5		600	127,5 - 130,5	İ	RW = 19,5		·	
	(150,0 - 158,0)			(124,0 - 134,0		- 21,0 mm	1 .		
				, = , =		21,0 1.0	•		

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.85

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Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.

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D. Adjustment Test for Manifold Pressure Compensator

DAF 11,6 k 5

- 2 -

Test at n =		ro/
162(9(1) -	C 0 0	rev/mi

600

rev/min decreasing pressure - in bar gauge pressure

Setting	Measurement	diminution Control rod travel- difference
Gauge pressure = bar	Gauge pressure = bar	mm (1)
0,70		12,8 - 12,9
	0,355	12,5 - 12,6
	0	11,4 - 11,5
	Gauge pressure = bar	Gauge pressure = bar Gauge pressure = bar 0,70 0,355

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Festoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 DAF 11,6 m

4. Edition

En

PE 6 P 100 A 320 RS 384

RQ 225/1100 PA 450/2 DR

supersedes 11.82 DAF company: DKL 1160

1 - 5 - 3 - 6 - 2 - 40 -60 -120 -180 - 240 - 300 (-0,75)

Komb.-Nr. 0 401 846 412

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection, Pump, Settings

Port closing at prestroke

(3,15-3,35)

mm (from BDC)

Rotational speed rev/min 1	Control rod travei mm	Fuel delivery cm ³ /100 strokes 3	Oifference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
600	11,9-12,0	11,5 - 11,7	0,35(0,6)			
225	7,3-7,5	0,8-1,4 ,	0,35(0,55)		,

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	Control rod	Full-load (Setting po	Control	Test spec	cifications (4)	ldle spec Setting p	Control		cifications 5	Torque o	Control rod
rev/min 1	travel mm 2	rev/min 3	md travel mm 4	red travel mm 5	rev/min 6	rev/min 7	ned travel mm 8	rev/aun 9	travei mm 10	rev/min 11	travel mm 12
550	15,6-16,4	550 1	6,0	0,1	1145-1060	225	6,0	100 1	nin.7,6	1050 600	11,1-11,2 11,9-12,0
1300	0,3-1,0			4,0	1175-1205			225 3 25-3	7,3 - 7,5 65 =2,0	825	1,7-11,9

Torque-control travel
on flyweight as sembly dimension a =

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for	d Contre
fev/min 1	cm³/-1000 strokes	rav/min 3	rev/min 4	cm ³ /~1000 strokes 5	rev/min 6	cm ³ /1000 strokes/ mm 7
600	1145 - 116,5 (1125 - 118,5)	•	1050	105,0 - 108,0 (103,0 - 110,0)		195,0 - 235,0 19,5-21,0 mm RW
					225	8,0-14,0 5,5-16,5)

Checking values in brackets

(5.85

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WPP 001/4 DAF 11,6 r

4. Edition

PE 6 P 100 A 320 RS 384 Komb.-Nr. 0 401 846 438 RQ 225/1100 PA 517

supersede 11.82

company DAF

151 kW (205 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Control rod travel m/n 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
11,5+0,1	11,1-11,3	0,35(0,6) :		
7,2-7,4	1,0-1,4	0,35(0,5	5)		
	mm 2 11,5+0,1	travel cm ³ /100 strokes 3 11,5+0,1 11,1-11,3	travel cm ³ /100 strokes cm ³ / 100 strokes 2 cm ³ / 100 strokes 4 11,5+0,1 11,1-11,3 0,35(0,6)	travel cm³/100 strokes cm³/ 100 strokes cm³/ 100 strokes mm 2 11,5+0,1 11,1-11,3 0,35(0,6)	travel travel travel travel travel travel travel travel travel travel travel travel travel travel travel travel travel travel travel travel travel travel travel travel travel travel travel tra

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	ng of slider ock	Full-load : Setting po			cifications (4)	Idle spec			cifications (5)	Torque (control 3
rev/min	Control rod travel mm	rev/min 3	Central rad travel mm 4	Centrel red travel rnm	rev/min 6	rev/min 7	Control rod travel rmm 8	rev/min	Control rod travel mm	rev/min	Control rod travel mm
550	15,6-16,4	550	16,0	9,8 4,0 1300	1140-1155 1170-1200 0-1,0		7,3	225	7,2-7,4 1 365=2,0	050	11,5-11,6 10,8-11,0 11,2-11,4 10,9-11,2
	ontro! travel ight assembly dimen	sion a =	0,25	mm	Spe	ed regula		140-1	155 min -1		1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel delivery characteristics			Starting fuel delivery Idle speed		
rev/min 1	cm³/-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes		rev/min	Control and travel cm ³ /1000 strokes / mm	
600	110,5-112,5 (108,5-114,5)	600	1050	107,0-111,0 (105,0-113,0)		100	195,0-235,0 =19,5-21,0	

Checking values in brackets

05.85

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Testoil-ISO 4113

WPP 001/4 DAF 11,6 m 7

1. Edition

PE 6 P 100 A 320 RS 384/Y Komb.-Nr. 0 401 846 412/Y

RQ 300/1100 PA 450/2 DR

supersedes companDAF engine DKL 1160

Port closing difference = 0,9 - 1,0 mm betweencontrol-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings Port closing at prestroke

mm (from BDC)

Rotational speed rev/min	Control rod travel • mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	11,9+0,1	11,4-11,7	0,3(0,60)			
225	7,3-7,5	0,8-1,2	0,3(0,55)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking PRG che	(' /	Full-load : Setting po			cifications (4)	Idle spec	_		cifications (5)	Torque (control
rev/min 1	Control rod travel mm 2	rev/min	Control rod travel mm 4	Central red travel rnm ·	rev/min 6	rev/min 7	Control rod travel rmm 8	rev/min 9	Control rod travel	rev/min	travel
550	15,6-16,4	550	16,0	10,1	1145-1160 1175-1205	i	7,4	i	min.7,5 7,3-7,5	600 825	11,9-12,0 11,7-11,9
				1300	max. 1,0			325-3	65=2,0	915 050	11,1-11,4

Torque-control travel on flyweight assembly dimension a

1145-1160 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control tever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting I	
rev/min 1	cm³/~1000 strokes	rev/min 3	rev/min 4	cm ² /-1000 strokes	rev/min	Control rod travel cm ³ /1000 strokes;/ mm
600	114,0-117,0 (112,5-118,5)	600	1050	104,0-109,0 (102,5-110,5)	100	195,0-235,0 RW = 19,5- 21,0 mm

Checking values in brackets

40

WPP 001/4 DAF 11,6 m 10

1. Edition

Testoil-ISO 4113

PE 6 P 100 A 320 RS 384/Z

RQ 250/1100 PA 517

Komb.-Nr. 0 401 846 438/Z

company DAF

Port closing difference = 0,9 - 1,0 mm between control-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3,15-3,35)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
600	11,5+0,1	11,0-11,3	0,3(0,60)		
225	7,2-7,4	1,0-1,4	0,3(0,55			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	Control rod	Full-load Setting por			cifications 4	idle spe Setting p	Control rod travel		cifications 5 Control rod	Torque o	Control rod 3
550	15,6-16,4	550	16,0	9,8 4,0 1300	1140-1155 1170-1200 max. 1,0	1	7,3	225	min.7,5 7,2-7,4 365=2,0	600 800 855	11,5-11,6 11,2-11,4 10,9-11,2
			0.05							1050	10,8-11,0

Torque-control travel on flyweight assembly dimension a =

0,25

Speed regulation: At 1140-1155 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting f	
rev/min	cm³/-1000 strokes	rev/min 3	rev/min 4	cm ³ /~1000 strokes	rev/min	Control rod travel cm ³ /1000 strokes:/ mm
600	110,0-113,0 (108,5-114,5)	600	1050	106,5-111,5 (105,0-113,0)	100	195,0-235,0 RW = 19,5- 21,0 mm

Checking values in brackets

05.85

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620

WPP 001/4 DAF 11,6 t 3

2. Edition

PE 6 P 100 A 320 RS 384/Y Komb.-Nr. 0 401 846 452/Y

RQ 225/1000 PA 571

supersedes ...

company: DAF

DKDL 1160 V

Port closing difference = 0.9 - 1.0 mm betweencontrol-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

		J, 10=3,33)				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve) mm
625	11,5+0,1	11,0-11,3	0,3(0,60			
1000	10,6+0,2	10,0-10,4	-			
225	7,5-7,7	1,5-1,7	0,3(0,55))		
			9			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	g of slider ck Control rod travel mm 2	Full-load s Setting po rev/min 3	*	-	rev/min	4)	Idle spec Setting p rev/min 7	Control red travel		cifications 5 Control rod travel mm	Torque o	Control Control (3) Control rod (17) travel mm
550	15,6-16,4	550	16,0	9,6 4,0 1250	1045-1 1100-1 max. 1	1130	225	7,6	225	min.8,0 7,5-7,7 70=2,0	625 850 1000	11,5-11,6 11,0-11,2 10,6-10,8
n flywei	ontrol travel ght assembly dimen		0,50	mm		Spe	ed regula	ition: At	045-1	060 min-1		† mm·less·contro

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever	Control rod stop	Fuel deliv	ery characteristics 3b	Starting fuel delivery Idle speed		
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes	rev/min 6	cm ³ /1000 strokes / mm	
625	110,0-113,0 (108,5-114,5)	625	1000	100,0-104,0 (98,0-106,0)	100	170,0-210,0 RW = 19,5- 21,0 mm	

Checking values in brackets

estoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 WPF 001/4 DAF 11,6 m 12 and Governors

1. Edition

PE 6 P 100 A 320 RS 384/Z Komb.-Nr. 0 401 846 452/Z

RQ 250/1000 PA 571

supersedes.

company: DAF engine. DKDL 1160

Port closing difference = 0,9 - 1,0 mm betweencontrol-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from SDC)

		<u> </u>				
Rotational speed rev/min	Control rod travel mm	Fuei delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel de!ivery cm³/190 strokes 3	Spring pre-tensioning (torque-control valve) mm
600	11,4+0,1	9,8-10,0	0,3(0,60)	30		
1000	10,6+0,2	9,3-9,7	-			
250	7,5-7,7	0,9-1,3	0,3(0,55)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min 1	Control rod Control rod travel	Full-load : Setting po rev/min 3			rev/min	Idle spec Setting p rev/min 7	Control rod travel		cifications 5 Control rod travel mm	Torque o	Control rod
550	15,6-16,4	550	6,0	9,6 4,0 1250	1045-1060 1100-1130 max. 1,0	250	7,6	100 250	min.8,4 7,5-7,7 85=2,0	600 820 900 1000	11,4-11,5 11,2-11,4 10,8-11,1 10,6-10,8

Torque-control travel

0,50

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governo	delivery on r control lever emp. 40°C (104°F)	Control rod stop	Fuel deliv	33)	Starting fuel delivery Idle speed Control		
Fev/min	cm ² /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/min	cm ³ /1000 strokes://mm
600	98,0-100,0 (96,0-102,0)	600	1000	93,0-97,0 (91,0-99,6)			170,0-210,0 RW = 19,5- 21,0 mm

Checking values in brackets

2

Test Specifications
Fuel Injection Pumps 2
and Governors

40

WPP 001/4 DAF 11,6 m 13

1. Edition

En

PE 6 P 100 A 320 RS 384-1 Komb.-Nr. 0 401 846 513 RQ 225/1100 PA 574-1

supersedes

company: DAF

engine DK 1160 V

All test specifications are valid for A. Fuel injection

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3.15-3.35)

mm (from BDC)

		331343337				
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (terque-control valve)
600	11,1+0,	10,8-11,0	0,35(0,6)			
225	7,2-7,4	1,0-1,4	0,35(0,55)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider	Full-load s Setting po		•	cifications (4)	Idle spec	•		cifications (5)	Torque	control (3)
rev/min	Control rod travel mm	rev/min 3	Cantrol red travel mm 4	Central rad travel rnm -	rev/min	rev/min 7	Control rod travel		Control rod travel mm	rev/min	travel
550		500	16,0	9,1 4,0 1300	1140-1155 1170-1200 0,3-1,0		7,3	100 225 325-	min. 7,5 7,2-7,4 865= 2,0		11,1-11,2 10,1-10,3 10,8-11,0 10,3-10,6

Torque-control travel on flyweight assembly dimension a =

0,5

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	lelivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting fi idle spee	d Control
rev/min	cm ³ /~1000 strokes 2	rev/min 3	rev/min	cm³/-1000 strokes	rev/min	md travel cm ² /1000 strokes:/ mm 7
600	108,0-110,0 (106,0-112,0)	~	1050	(94,5-103,5)	100 225	195,0-235,0 191,0-239,0) = 19,5-21,0 mm RW 10,0-14,0 (7,5-16,5)

Checking values in brackets

5.85

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40

WPP 001/4 DAF 11,6 w

2. Edition

E

PE 6 P 100 A 320 RS 384-1

RSV 250-1100 P 5/506

supersedes 7 • 84 DAF

Komb.-Nr. 0 401 876 284

Note VDT-I-420/114

engine DK 1160 V

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

3,2-3,3 (3,15-3,35)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	100 strokes	mm 2	cm4/100 strokes	mm 6
600	11,5+0,1	11,1-11,3	0,35(0,6)			
250	7,2-7,4	1,2-1,6	0,35(0,55)			_
			·			
					-	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	t rev/min Control rod travel mm rev/min 3	interme	diate rate	d speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control red travel mm	3 To	rque control Control rod travel mm
loose	1	0,3-1,9 4,3	-	-	-	ca. 21	250 250	6,8 7,2-7,4	600	10,8-11,0 11,5-11,6 11,2-11,4
ca. 50		1125-1135 1260 - 1290 0,3-1,7					700-70	60= 2,0		11,1-11,4

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ili-foad stop Bmp. 40°C (104°F)	Rotational- speed limitat		uel delivery paracteristics	Starting Idle	tuel delivery 5	4. Idi	e stop
rev/min	cm ³ /1000 strokes	changed to .) rev/min 3	rev/min 4	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
600	110,5-112,5 (108,5-114,5)	1125-1135*	1050	106,5-111,5 (104,0-114,0)	100	195,0-235 (191,0-239 = 19,5- 21,0 mm RW		7,3

Checking values in brackets

* 1 mm less control rod travel than col 2

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Test Specifications Fuel Injection Pumps 2 001/4 DAF 11,6 m 1 and Governors

1. Edition

PE 6 P 100 A 320 RS 384-1/Y Komb.-Nr. 0 401 846 465/Y

RO 225/1000 PA 571

supersedes

companyDAF

engine: DKDL 1160 V

Port closing difference = 0.9 - 1.0 mm betweencontrol-red travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

	3,13-3,33)				
Control rod travel * mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-(ensioning (torque-control valve) mm
11,5+0,1	11,0-11,3	0,3(0,6)			
10,6+0,2	10,0-10,4	-		ę į	
7,5-7,7	1,5-1,7	0,3(0,55)			
	mm 2 11,5+0,1 10,6+0,2	travel mm cm³/100 strckes 2 11,5+0,1 11,0-11,3 10,6+0,2 10,0-10,4	travel mm cm³/100 strckes 2 cm³/ 100 strckes 4 11,5+0,1 11,0-11,3 0,3(0,6) 10,6+0,2 10,0-10,4 -	travel cm ³ /100 strckes cm ³ /100 strckes cm ³ /100 strckes dmm 2 11,5+0,1 11,0-11,3 0,3(0,6) 10,6+0,2 10,0-10,4 -	travel cm³/100 strckes 2 cm³/100 strckes 4 cm³/100 strokes 2 cm³/1

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min 1	Control rod travel			-	rev/min	fdle spee Setting p rev/min 7	coint Control rod travei		cifications 5 Control rod travel mm		Control rod (3) travel mm
550	15,6-16,4	550	16,0	4,0	1045-1060 1100-1130 max. 1,0	225		225	min.8,0 7,5-7,7 70=2,0	850	11,5-11,6 11,0-11,2 10,6-10,8

Torque-control travel on flyweight assembly dimension a =

0,50 _{mm}

Speed regulation: At 1045-1060 min-1

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	<u>3</u> b)	Starting t	d Control
rev/min 1	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	cm ³ /1000 strokes:/ mm
625	110,0-113,0 (108,5-114,5)	625	1000	100,0-104,0 (98,0-106,0)		100	170,0-210,0 RW = 19,5- 21,0 mm

Checking values in brackets



Testoil-ISO 41+3

1. Edition

PE 6 P 100 ^ 320 RS 384-1/Y Komb.-Nr. u 401 846 466/Y

RQ 300/1100 PA 574

supersedes_

company: DAF

engine: DKL 1160

Port closing difference = 0.9 - 1.0 mm betweencontrol-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (forque-control valve) mm
600	11,5+0,1	11,0-11,3	0,3(0,60)			
1050	10,8+0,2	10,7-11,2	-			
225	7,2-7,4	1,0-1,4	0,3(0,55)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 2 3	4	_		rev/min	mm	rev/min	mm	rev/min	travel
550 15,6-16,4 550	16,0	9,8 4,0 1300	1140-1155 1170-1200 max. 1,0		7,3	9 100 225	min.7,5 7,2-7,4 365=2,0	600 800 855	11,5-11,6 11,2-11,4 10,9-11,2 10,8-11,0

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At 1140-1155 min

1'mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 33	Fuel deliv	ery characteristics (3b)	Starting fuel delivery Idle speed		
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strok es 5	rev/min 6	rod travel cm ³ /1000 strokes:/ mm	
600	110,0-113,0 (108,5-114,5)	600	1050	106,5-111,5 (105,0-113,0)	100	195,0-235,0 RW = 19,5- 21,0 mm	

Checking values in brackets

5.85

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estoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 WPP 001/4 DAF 11,6 m 3 and Governors

1. Edition

PE 6 P 100 A 320 RS 384-1/Z Komb.-Nr. 0 401 846 465/Z

RO 250/1000 PA 571

supersedes -

DAF company:

engine:

DKDL 1160

Port closing difference = 0,9 - 1,0 mm betweencontrol-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

		(0,10-0,00)				
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve)
600	11,4+0,1	9,8-10,0	0,3(0,60)			
1000	10,6+0,2	9,3-9,7	-			
250	7,5-7,7	0,9-1,3	0,3(0,55)			
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min 1	Control rod	Full-load : Setting po rev/min 3	•	_	rev/min	Idle spe Setting p rev/min 7	Control rod travel	Test spe	control rod travel	Torque o	Control rod (3)
550	15,6-16,4	550	16,0	9,6 4,0 1250	1045-1060 1100-1130 max. 1,0	250	7,6	250	7,5-7,7 85=2,0	500 820 900 1000	11,4-11,5 11,2-11,4 10,8-11,1 10,6-10,8

Torque-control travel on flyweight assembly dimension a = 0,5

1045-1060 min-1 Speed regulation: At

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	(36)	Starting (luel delivery
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5		rev/min	cm ³ /1000 strokes:/ mm
600	98,0-100,0 (96,0-102,0)	600	1000	93,0-97,0 (91,0-99,0)		100	170,0-210,0 RW = 19,5- 21,0 mm

Checking values in brackets

5.85

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Testoil-ISO 411

WPP 001/4 DAF 11,6 m 4

1. Edition

PE 6 P 100 A 320 RS 384-1/Z

RQ 250/1100 PA 574

supersedes compan DAF

engine: DKL 1160

Komb.-Nr. 0 401 846 466/Z

Port closing difference = 0,9 - 1,0 mm betweencontrol-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	11.5+0.	1 11,0-11,3	0,3(0,60)		
225	7,2-7,4	1,0-1,4	0,3(0,55)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	Checking of slider PRG check Control rod travel rev/min mm 1 2 3		speed re pint Control and travel mm	Test specifications Control red travel mm - rev/min 5		idle spec Setting p rev/min 7	Control Fred travel		coffications 5 Control rod travel	Control rod (3) travel rev/min mm 11 12	
550	15,6-16,4	550	16,0	4,0	1140-1155 1170-1200 max. 1,0	225	7,3	225	min.7,5 7,2-7,4 365=2,0	600 800 855 1050	11,5-11,6 11,2-11,4 10,9-11,2 10,8-11,0

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At 140-1155 min-1

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

governor	felivery on control lever mp. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	1	starting fuel delivery dle speed		
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm³/-1000 strokes	rev/min	Control rod travel cm ³ /1000 strokes / mm		
600	110,0-113,0 (108,5-114,5)	600	1050	106,5-111,5 (105,0-113,0)	100	195,0-235,0 RW = 19,5- 21,0 mm		

Checking values in brackets

WPP 001/4 DAF 11,6 t 1

5. Edition

PE 6 P 110 A 320 RS 385 Komb.-Nr. 0 401 876 250

RSV 250-750 P7/479

supersedes 7.84

DK, DKT, DKS, DKA116(

1-5-3-6-2-4 $0-60-120-180-240-300^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,75-2,95) 2,80-2,90

mm (from BDC= RW 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm³/100 strokes 3	Difference cm³/ 100 strokes 4	Costrol rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
750	12,6+0,1	16,9-17,2	0,4(0,75)			
250	6,8-7,0	2,5-3,3	0,45(0,75)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	er rated speed	rev/min	Interine	diate rated	speed	4	Lower	rated speed	1 5	rque control
Degree of deflection of control	travel	travel				Control- lever deflection	rev/min	Control rod travel	rev/min	Control rod travel
lever 1	2	3	4	5	6	in degrees	8	9	10	11
loose	800	0,3-1,0	-	-	-	ca. 18	250	6,9	•	-
	Χ =	3,75					250	6,8-7,0 5 = 2,0 mm		
ca. 44		5 = 11,6 5 = 4,0 0,3-1,7					245-30	5 = 2,0 mm **		

The numbers denote the sequence of the tests

** Set idle auxiliary-spring at 2 mm control-rod travel.

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop	6 Rotational- speed limitat) (4a) idle stop		
rev/min	emp 40°C (104°F) cm ³ /1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm	
750	169,5-172,5 (167,0-175,0)	790-795*	-		250	25,0-33,0 (22,5-35,5) -	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

H5

WPP 001/4 DAF 11,6 t 7

1. Edition

PE 6 P 110 A 320 RS 385/R Komb.-Nr. 0 401 876 250/R

RSV 250-900 P 7/479

supersedes_

company DAF

engine DK 1160 A

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

DK 1160 M Port closing difference = 0,9 - 1,0 mm between

A. Fuel Injection Pump Settings

Port closing at prestroke

2,8-2,9 (2,75-2,95)

mm (from BDC)

control-rod travel 9 mm

and control-rod travel 21 mm

		-,/5-2,55/				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (forque-control valve)
ten/win	mm (2)	cm ¹ /100 strokes	cm ³ / 100 strokes	mm	cm²/100 strokes	mm
1	2	3	4	2	3	6
750	11,0+0,1	13,9-14,2	0,4(0,75)			
250	6,8-7,0	2,5-3,3	0,4(0,75)			
·						
					·	

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

1 Uppe	r rated speed	rev/min	Interme	diate rated	speed	4	Lower	rated speed	(3) To	rque control
Degree of deflection of control lever	travel mm	travel				Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
loose	700	0,3-1,0	-	-	-	ca. 19	250	6,9		-
1	x =						250	6,8-7,0		
ca. 44	10,1 4,0 950	760-770 770-790 0,3-1,7			•		260-320	= 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	sil-load stop emp. 40°C (104°F)	Rotational- speed limitat		el delivery aractenstics	Starting f	uel delivery 5	42 Idi	e stop Control rad
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm
750	138,5-141,5 (136,0-144,0)	760-770*	-	-	100	min.19,5 mm RW	-	•
		c					,	

Checking values in brackets

1 mm less control rod travel than col 2

40

WPP 001/4 DAF 11,6 t 8

1. Edition

En

PE 6 P 110 A 320 A RS 385/S Komb.-Nr. 0 401 876 250/S

RSV 250-750 P 7/479

supersedes_

company DAF

engine DK 1160 A

DK 1160 M

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

estoil-ISO 4113

2,80-2,90 (2,75-2,95)

mm (from BDC)

Port closing difference = 0,9 - 1,0 mm between control-rod travel 9 mm and control-rod travel 21 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	cm ³ /		Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
750	11,1+0,1	13,9-14,2	0,4(0,75)			
250	6,8-7,0	2,5-3,3	0,4(0,75)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of	r rated speed Control rod travel mm		Intermed	nate rated	speed 6	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	11.97	rque control Control rod travel mm
loose	700 x =	0,3-1,0	-	-	-	ca. 19	250 250	6,9 6,8 - 7,0	-	-
ca. 44	10,1 4,0 950	760-770 770-790 0,3-1,7					260-320	= 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp 40°C (104°F)	Rotational- speed limitat.		Fuel delivery characteristics		uel delivery 5	4a) Idle stop		
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9	
750	138,5-141,5 (136,0-144,0)	760-770*	-	-	100	min.19,5 mm RW	•	-	

Checking values in brackets

* 1 mm less control rod travel than col 2

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WPP 001/4 DAF 11,6 t 9

1. Edition

PE 6 P 110 A 320 RS 385/T Komb.-Nr. 0 401 876 250/T

RSV 250-900 P 7/479

company DAF

DKA 1160 A

DKA 1160 M

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

estoil-ISO 4113

2,8-2,9

mm (from BDC)

Port closing difference = 0,9 - 1,0 mm betweencontrol-rod travel 9 mm and control-rod travel 21 mm

(2,75-2,95)Fuel delivery Rotational Control rod Difference Control rod Fuel delivery Spring pre-tensioning speed travel (torque-control valve) cm³/ 2 rev/min cm³/100 strokes mm 100 strokes cm³/100 strokes шш 750 11,1+0,1 0,4(0,75)14,1-14,4 250 6,8-7,02,5-3,3 0,4(0,75)

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
loose	700 x =	0,3-1,0	-	-	-	ca. 19	250 250	6,9 6,8 - 7,0	-	-
ca. 52	10,1 4,0 1100	910-920 920-940 0,3-1,7					260-32	0 = 2,0	لتي.	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat		nel delivery paracteristics	Starting I	fuel delivery 5	(4a) Idi	e stop
rev/m:n	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to .) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
750	140,5-143,5 (138,0-146,0)	910-920*	-	-	100	min.19,5 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

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WPP 001/4 DAF 11,6 t 10

'n

PE 6 P 110 A 320 RS 385/U Komb.-Nr. 0 401 876 250/U

RSV 250-750 P 7/479

supersedes

1. Edition

company DAF

engine DKA 1160 A DKA 1160 M

Port closing difference = 0,9 - 1,0 mm between control-rod travel 9 mm

and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,80-2,90 (2,75-2,95)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
750	11,1+0,1	14,1-14,4	0,4(0,75)			
250	6,8-7,0	2,5-3,3	0,4(0,75)			
					ļ.	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm 2	Control rod travel mm rev/min	Interme	diate rate	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	rev/min	rque control Control rod travel mm 11
loose	700 x =	0,3-1,0	-		. •	ca. 19	250 250	6,9 6,8-7,0	-	•
ca. 44	10,1 4,0 950	760-770 770-790 0,3-1,7					250-32	0,3-7,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp. 40°C (104°F)	6 Rotational- speed limitat		iel delivery jaracteristics	Starting f	uel delivery 5	4a) idi	e stop
rev/min 1	cm ³ /1000 strokes 2	changed to) rev/min	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control root travel mm
750	140,5-143,5 (138,0-146,0)	760-770*	-	•	100	min.19,5 mm RW	-	-
				·				

Checking values in brackets

* 1 mm less control rod travel than col. 2

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WPP 001/4 DAF 11.6 t 11

1. Edition

PE 6 P 110 A 320 RS 385/V Komb.-Nr. 0 401 876 250/V

RSV 250-900-P 7/479

supersed DAF

compare DKS 1160 A

engine DKS 1160 M

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers A. Fuel Injection Pump Settings

Port closing difference = 0.9 - 1.0 mm between control-rod travel 9 mm and control-rod travel 21 mm

2,80-2,90

Port closing at prestroke

mm (from BDCbei RW = 9.0-12.0 %mi

(2.75-2.95)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
750	13,0-13,2	17,9-18,3	0,4(0,75)	2	3	6
250	6,8-7,0	2,5-3,3	0,4(0,75)			-
,						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1)

	r rated speed	rev/min	interm	ediate rated	speed	4	r rated speed	1 3		
Degree of deflection of control lever	travel mm 2	travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	700	0,3-1,0	-	-	•	ca. 17	250	6,9	-	-
	X =						250	6,8-7,0		
ca. 42	12,0 4,0 1100	910-920 920-940 0,3-1,7				·	260-32	0 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp. 40°C (104°F)	Rotational- speed limitat		uel delivery paracteristics	Starting fuel delivery 5 4a Idle stop			
rev/min 1	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control root travel mm
750	178,5-182,5 (176,5-184,5)	910-920*		-	100	min. 19, mm RW		-

Checking values in brackets

* 1 mm less control rod travel than col 2

WPP 001/4 DAF 11,6 t 12

1. Edition

PE 6 P 110 A 320 RS 385/W Komb.-Nr. 0 401 876 250/W RSV 250-750 P 7/479

supersedes companyDAF

engine DKS 1160 A DKS 1160 M

Port closing difference = 0.9 - 1.0 mm betweencontrol-rod travel 9 mm

and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Festoil-ISO 411

(2,75-2,95)

mm (from BDcbei RW = 9.0-12.0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm³/100 strokes	cm ³ / 100 strokes	mm	cm=/100 strokes	mm
1	2	3	4	2	3	6
750	13,0+0,2	17,9-18,3	0,4 (0,75)			_
250	6,8-7,7	2,5-3,3	0,4 (0,75)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

1()	r rated speed Control rod travel mm		Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	3 To	rque control Control rod travel mm
loose	700	0,3-1,0	-	-	-	ca.17	250	6.9	-	_
	_ x =					Ì	250	6,8-7,0		
23.42	12,0 4,0** 950	760-770 770-810 0.3-1.7					260-320	= 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat		iel delivery paractenstics	Starting I	ruel delivery 5	43 Idl	e stop
Test oil to rev/min 1	emp. 40°C (104°F) cm³/1000 strokes 2	Note. changed to) rev/min 3	rev/min	; cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	Control rod travel mm
750	178,5-182,5 (176,5-184,5)	760-770*	-	-	100	min. 19,5 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

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WPP 001/4 DAF 11,6 t 13

1. Edition

PE 6 P 110 A 320 RS 385/Z Komb.-Nr. 0 401 876 250/Z RSV 250-900 P 7/479

supersedes companyDAF

engine DKT 1160 A DKT 1160 M

Port closing difference = 0.9 - 1.0 mm betweencontrol-rod travel 9 mm

and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,75-2,95)

mm (from BDCbei RW = 9.0-12.0 mm

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Oifference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm-/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
750	12,6+0,1	16,9-17,3	0,4 (0,75)			
250	6,8-7,0	2,5-3,3	0,4 (0,75)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	Control rod travel . mm rev/min		diate rated		Control- lever deflection in degrees	rev/min	rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
1	700	0 2 4 0	4	5	6	ca.17	250	9 6,9	10	11
loose	700	0,3-1,0	_	-	-	Ca.1/	230	0,9	-	_
	X =						250	6,8-7,0		
ca.49	11,6 4,0** 1100	910-920 920-940 0,3-1,7		·,	•		260-320) = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Full-load stop Test oil temp 40°C (104°F)		6 Rotational- speed limitat	Ga Fuel delivery characteristics		Starting fuel delivery 5		4a) Idle stop	
rev/min	cm ³ /1000 strokes	Note: changed to .) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm
750	169,0-173,0 (167,0-175,6)	910-920*	-	-	100	min.19,5 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

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WPP 001/4 DAF 11,6 t 4

3. Edition

En

PE 6 P 110 A 320 RS 385-1 Komb.-Nr. 0 401 876 256 RSV 250-750 P 7/479

supersedes 7.84

company DAF

engine DK, DKT, DKS, DKA

. Il test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,8**-**2,9 (2,75**-**2,95)

mm (from BDG) RW 9,0-12,0 mm

Control rod trave!	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
12,8+0,1	17,4-17,7	0,4(0,75)			
6,8-7,0	2,5-3,3	0,45(0,75			
	mm 2 2 12,8+0,1	trave! mm 2 cm ³ /100 strokes 2 12,8+0,1 17,4-17,7	trave! mm 2 cm ³ /100 strokes cm ³ / 100 strokes 4 12,8+0,1 17,4-17,7 0,4(0,75)	trave! mm 2 cm³/100 strokes cm³/ 100 strokes cm³/ 100 strokes mm 2 12,8+0,1 17,4-17,7 0,4(0,75)	trave! mm 2 cm³/100 strokes 2 cm³/100 strokes 4 cm³/100 strokes 2 cm³/100 strokes 3 cm³/100 strokes 3 cm³/100 strokes

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm		Intermed	date rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
loose	800	0,3-1,0	-	•	-	ca. 18	250	6,9	-	-
	x =	3,75					250	6,8-7,0 05 = 2,0		
ca. 44	11,8 4,0 950	790-795 810-825 0,3-1,7					245-3	72 = 2,0 **		

The numbers denote the sequence of the tests

** Set idle auxiliary-spring at 2 mm control-rod travel.

C. Settings for Fuel Injection Pump with Fitted Governor

	emp. 40°C (104°F)	Rotational- speed limitat		rel delivery naracteristics	Starting i	fuel delivery 5	(4a) idi	e stop
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm
750	174,0-177,0 (171,5-179,5)	790-795*	-	-	250	25,0-33,0 (22,5-35,5) -	-

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

The less common too haver than con

WPP 001/4 DAF 11,6 t 19

1. Edition

PE 6 P 110 A 320 RS 385-1/T Komb.-Nr. 0 401 876 256/T

RSV 250-900 P 7/479

supersedes compan DAF engine DKA 1160

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Port closing difference = 0.9 - 1.0 mm betweencontrol-rod travel 9 mm and control-rod travel 21 mm

A. Fuel Injection Pump Settings

Port closing at prestroke

Festoil-ISO 4113

2,80-2,90 (2,75-2,95)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control vaive) mm
750	11,1+0,2	14,1-14,4	0,4 (0,75)			
250	6,8-7,0	2,5-3,3	0,4 (0,75)			
				L		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel	Control rod travel mm rev/min	intermed	hate rated	speed	Control- lever cteffection in degrees	Lower	rated speed Control rod travel mm	3 To	rque sontrol Control rod travel mm
loose	700	0,3-1,0	4	5	6	ca.17	250	9 6,9	10	11
	,	0,0 1,0				Carry		6,8-7,0		
52	10,1 4,0** 1100	915-920 935-950 0.3-1.7					260-320	= 2,0		

The numbers denote the sequence of the tests ** max. speed difference = 20 - 30 min⁻¹, between control-rod travel 10.1 and 4,0 mm. C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp 40°C (104°F)	6 Rotational- speed limitat		Fuel delivery characteristics		uel delivery 5	4a Idle stop	
rev/min	cm ³ /1000 strokes	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min	Control rod travel mm
750	140,5-143,5 (138,0-146,0)	915-920*	-	-	100	RW = 19,5 - 21,0 mm		
							٠	

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

WPP 001/4 DAF 11,6 t 20

1. Edition

PE 6 P 110 A 320 RS 385-1/U Komb.-Nr. 0 401 876 256/ U

RSV 250-750 P 7/479

supersedes DAF companyDKA 1160

Port closing difference = 0.9 - 1.0 mm betweencontrol-rod travel 9 mm

and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 41

(2,75-2,95)

mm (from BDcbei RW = 9.0-12.0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	rnm 2	em ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes	mm 6
750	11,1+0,2	14,1-14,4	0,4 (0,75)			
250	6,8-7,0	2,5-3,3	0,4 (0,75)			
				:		

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

1 Uppe	r rated speed		Interme	ediate rate	d speed	(4)	Lower	rated speed	(3) To	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	700	0,3-1,0	-	-l	<u> </u>	ca.17	250	6,9	1	-
							250	6,8-7,0		
23°.44	10,1 4,0**	790-795 810-825 0.3-1.7					260-32	0 = 2,0		

The numbers denote the sequence of the tests

** max. speed difference = 20 - 30 min⁻¹, between control-rod travel 10,1 and 4,0 mm.

C. Settings for Fuel Injection Pump with Fitted Governor

C	eli-load stop	6 Rotational- speed limitat		uel delivery naractenstics	Starting t	fuel delivery 5	(4a) Idi	e stop
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control root travel mm
750	140,5-143,5 (138,0-146,0)	790-795*	-	-	100	RW = 19,5 - 21,0 mm		
			,			·		

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 DAF 11,6 t 21

1. Edition

PE 6 P 110 A 320 RS 385-1/V

RSV 250-900 P 7/479

Komb.-Nr. 0 401 876 256/V

supersears companyDAF

engine DKS 1160

Port closing difference = 0,9 - 1,0 mm between control-rod travel 9 mm

and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,80-2,90

Port closing at prestroke

(2,75-2,95)

mm (from BDcbei RW = 9.0-12.0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-contro) valve		
ev/min	mm (2)	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm		
<u> </u>	2	3	4	2	3	6		
750	13,0+0,2	17,9-18,3	0,4 (0,75)					
250	6,8-7,0	2,5-3,3	0,4 (0,75)					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	er rated speed		Interme	diate rated	speed	(4)	Lowe	er rated speed	(3) 10	rque control
Degree of deflection of control	travel	Control rod travel				Control- lever deflection	rev/min	Control rod travel	rev/min	Control rod travel
lever 1	2	3	4	5	6	in degrees 7	8	9 .	10	11
loose	700	0,3-1,0	-	-	-	ca.17	250	6,9	-	-
	X =		_				250	6,8-7,0		
ca.49	12,0 4,0** 1100	915-920 935-950 0,3-1,7					260-32	0 = 2,0		

The numbers denote the sequence of the tests ** max. speed difference = 20 - 30 min⁻¹, between control-rod travel 12.0 and 4.0 mm. C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp 40°C (104°F)	Rotational- speed limitat		uel delivery naracteristics	Starting tildle	uel delivery 5	(4a) id	le stop
rev/min	cm ³ /1000 strokes	Note changed to .) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm
750	178,5-182,5 (176,5-184,5)	915-920*	-	•	100	RW = 19,5 - 21,0 mm		

Checking values in brackets

* 1 mm less control rod travel than col 2

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

WPF 001/4 DAF 11,6 t 22

1. Edition

PE 6 P 110 A 320 RS 385-1/W

Komb.-Nr. 0 40t 876 256/W

RSV 250-750 P 7/479

supersedes companyDAF

engine DKS 1160

Port closing difference = 0,9 - 1,0 mm betweencontrol-rod travel 9 mm

and control-rod travel 21 mm

A. Fuel Injection Pump Settings 2,80-2,90

(2.75-2.95)Port closing at prestroke

mm (from BDCbei RW = 9.0-12.0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
750	13,0+0,2	17,9-18,3	0,4 (0,75)			
250	6,8-7,0	2,5-3,3	0,4 (0,75)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interme	oliate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
Toose	700	0,3-1,0	-	_	-	ca.17	250	6,9	-	-
	x =		_				250	6,8-7,0		
2a .42	12,0 4,0** 950	790-795 810-825 0,3-1,7					260-320	= 2,0		

The numbers denote the sequence of the tests ** max. speed difference = 20 - 30 min⁻¹, between C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp 40°C (104°F)	Rotational- speed limitat		Fuel delivery characteristics		uel delivery 5	4a) idle stop		
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	travel mm	
750	178,5-182,5 (176,5-184,5)	790-795*	-	-	100	RW = 19,5 - 21,0 mm			

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

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WPP 001/4 DAF 11,6 t 23

1. Edition

En

PE 6 P 110 A 320 RS 385-1/X

Komb.-Nr. 0 401 876 256/X

RSV 250-900 P 7/479

supersedes DAF companyDKTD 1160

Port closing difference = 0,9 - 1,0 mm betweencontrol-rod travel 9 mm

and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers A. Fuel Injection Pump Settings

Post closing at prestroke

(2,75-2,95)

mm (from BDC)

Rotational speed rev/min 1	mm (2)	Fuel delivery	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
750	11,2+0,2	14,4-14,7	0,4 (0,75)			
250	6,8-7,7	2,5-3,3	0,4 (0,75)			
 						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed	rev/min	Interma	Intermediate rated speed			Lower rated speed			3 Torque control		
Degree of deflection of control lever	travel mm 2	travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min	travel mm	rev/min	travel		
loose	700	0,3-1,0	-	-	-	ca.17	250	6,9	-	-		
	x =		ا				250	6,8-7,0				
ca.49	10,2 4,0** 1100	915-920 935-950 0,3-1,7			٠		260-32	= 2,0				

The numbers denote the sequence of the tests

max. speed difference = $20 - 30 \text{ min}^{-1}$, between control-rod travel 10.2 and 4.0 mm.

C. Settings for Fuel Injection Pump with Fitted Governor

	2b Full-load stop [est oil temp. 40°C (104°F) Rota Spee			uel delivery naracteristics	Starting t	iuel delivery 5	4a Idle stop		
	cm ³ /1000 strokes	changed to) rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm	
750	143,5-146,5 (141,0-149,5)	915-920*	-	-	100	RW = 19,5 - 21,0 mm			
						·			

Checking values in brackets

* 1 mm less control rod travel than col. 2

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WPP 001/4 DAF 11.6 t 24

1. Edition

PE 6 P 110 A 320 RS 385-1/Y Komb.-Nr. 0 401 876 256/Y

RSV 250-750 P 7/479

supersedes companyDAF engine DKDT 1160

Port closing difference = 0,9 - 1,0 mm betweencontrol-rod travel 9 mm

and control-rod travel 21 mm

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,75-2,95)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

mm (from BDC)

Rotational speed	travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	u u
1	5	3	4	2	3	6
750	11,2+0,2	14,4-14,7	0,4 (0,75)			
250	6,8-7,0	2,5-3,3	0,4 (0,75)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of	Upper rated speed rev/min Degree of deflection Control rod travel		Interme	Intermediate rated speed			Lower	Lower rated speed Control rod travel		rque control Control rod travel
deflection of control lever	mm 2	mm rev/min	4	5	6	lever deflection in degrees 7	rev/min	mm 9	rev/min	mm 11
loose	700	0,3-1,0	-	-	-	ca.17	250	6,9	_	_
	X =		_				250	6,8-7,0		
ca.42 2a		790-795 810-825 0,3-1,7			•	•	260-320	= 2,0		

The numbers denote the sequence of the tests ** max. speed difference = 20 - 30 min⁻¹, between control-rpd travel 10.2 and 4.0 mm. C. Settings for Fuel Injection Pump with Fitted Governor

8	ull-load stop	6 Rotational- speed limitat.		uel delivery naractenstics	Starting f	uel delivery 5	4a) Idle stop	
Test oil t rev/min 1	emp. 49°C (104°F) cm ³ /1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
750	143,5-146,5 (141,0-149,0)	790-795*	-	· <u>-</u>	100	RW = 19,5 - 21,0 mm		

Checking values in brackets

* 1 mm less control rod travel than col 2

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H19

WPP 001/4 DAF 11,6 t 25

1. Edition

PE 6 P 110 A 320 RS 385-1/Z Komb.-Nr. 0 401 876 256/Z

RSV 250-900 P 7/479

COMPANY DAT 1160

Port closing difference = 0,9 - 1,0 mm betweencontrol-rod travel 9 mm

and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,80-2,90 Port closing at prestroke (2,75-2,95)

mm (from BDC)bei RW = 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
750	12,6+0,1	16,9-17,3	0,4 (0,75))		
250	6,8-7,0	2,5-3,3	0,4 (0,75)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of	r rated speed Control rod travel mm		Intermed	Diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod (ravel mm	3 To	rque control Control rod travel mm
loose	700	0,3-1,0	-	-	-	ca.17	250	6,9	-	-
	X =	:					250	6,8-7,0		
(2a) .49	11,6 4,0** 1100	915-920 935-950 0,3-1,7					260-32	0 = 2,0		

The numbers denote the sequence of the tests

max. speed difference = 20 - 30 min⁻¹, between control-rod travel 11,6 and 4,0 mm.

C. Settings for Fuel Injection Pump with Fitted Governor

	all-load stop	Rotational- speed limitat		iel delivery paracteristics	Starting f	uel delivery 5	4a) idle stop	
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes 7	rev/min	Control rod travel mm
750	169,0-173,0 (167,0-175,0)	915-920*	-	-	100	RW = 19,5 - 21,0 mm		

Checking values in brackets

* 1 mm less control rod travel than co! 2

05.85 Geschaftsbereich KM. Kundendienst. Kf2-Ausrustung.

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40

WPP 001/4 DAF 11,6 t 5

3. Edition

PE 6 P 120 A 320 RS 385-2 RSV 250-750 P 7/4 Komb.-Nr. 0 401 876 274 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test

supersedes 7.84

Company DAF

DKX 1160

tubing 1 680 750 067

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Festoil-ISO 4113

2,8-2,9 (2,75-2,95)

mm (from BDC) RW = 9,0-12,0 mm

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ^{1/100} strokes 3	Spring pre-tensioning (torque-control valve) mm
750	12,6+0,1	22,1-22,3	0,5(0,9)			·
250	4,9-5,1	1,4-2,0	0,8(1,2)			7

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
loose	800	0,3-1,0	-	-	-	ca. 18	250	5,0	-	
	x =	3,75					250	4,9-5,1 0 = 2,0		
ca.44	10,6 4,0 950	790-795 810-825 0,3-1,7			·		250-2	**	•	

The numbers denote the sequence of the tests

**Set idle auxiliary-spring at 2 mm control-rod travel.

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational- speed limitat		el delivery aracteristics	Starting f	uel delivery 5	(4a) Idle stop	
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
750	221,0-223,0 (218,0-226,0)	790-795*	-	. -	250	14,0-20,0 (11,0-23,0	250)	5,0

Checking values in brackets

s control rod travel than col 2

5.85

BOSCH

Geschartsbereich RM Kundendienst. Rtz-Ausrustu*ngs 1* 2 1980 by Robert Bosch GmbH. Postfach 50, D-70த் நிருந்தோர் 1 Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par இந்தர். Bosch GmbH

WPP 001/4 DAF 11,6 t 26

1. Edition

PE 6 P 120 A 320 RS 385-2/Y

RSV 250-900 P 7/479

Komb.-Nr. 0 401 876 274/Y

supersedes DAF company DKX 1160

Port closing difference = 0.9 - 1.0 mm between control-rod travel 9 mm

and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers A. Fuel Injection Pump Settings

Port closing at prestroke

(2,75-2,95)

mm (from BDcbei RW = 9,0-12,0 mm.

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm³/100 strokes	mm
1	2	3	4	2	3	6
750	12,0+0,1	21,6-22,0	0,5 (0,90)			
250	4,9-5,1	0,2-0,9	0,65(0,95)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermediate rated speed 4 5 6		Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travei mm	3 To	rque control Control rod travel mm	
loose	800	0,3-1,0	-	-	-	ca.18	250	5,0	-	-
	X =						250	4,9-5,1		
€2. 52 ②3		915-920 *935-950 0,3-1,7					250-30	00 = 2,0		

The numbers denote the sequence of the tests

max. speed difference = 20 - 30 min⁻¹, between control-rod travel 11,0 and 4,0 mm.

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	6 Rotational- speed limitat		uel delivery naractenstics	Starting t	iuel delivery 5	(4a) Idi	e stop
rev/min	cm ³ /1000 strokes	Note: changed to) rev/min 3	rev/min	cm ^{3/1} 000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm
750	216,0-220,0 (213,0-223,0)	915-920	-	400	100	RW = 19,5 - 21,0 mm		
							,	

Checking values in brackets

* 1 mm less control rod travel than col 2

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Festoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 RVI 9,8 a 6

1. Edition

PES 6 P 120 A 320 RS 419 Komb.-Nr. 0 402 046 313

RQV 275-1050 PA 495-8

companyRVI engine MIDS 062045 169 kW

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing mark 9.0° after port closing cylinder 1

Port closing at pres	stroke	(2 75-2 95)	mm (from SUC)		por c cros mg	Cyrinder 1.
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel sim 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1050	10,3+0,1	19,0-19,2	0,5(0,9)			
275	4,8-5,0	1,7-2,3	0,8(1,2)			
				l _		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	rev/min Control	Control rod (la)	Intermediate Degree of deflection	rated sp	Control rod travel	Lower rated Degree of deflection	speed	Control rod	Sliding s	leeve travel
lever 1	rod travel mm 2		of control lever 4	rev/min 5	mm 4	of control lever 7	rev/min 8	mm 3 9	rev/min 10	mm 11
max.	1130	15,2-17,8	-	-	-	ca. 8	200 275	min.5,4	250	,0-1,2
ca. 64	9.3 4,0 1350	1110-1120 1185-1215 0 - 1,0				275-390		14,0-4,2	450 800 1050	3,3-3,8 5,7-6,0 7,7
						3a)				

Torque control travel a

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-ros Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel deliv	very characteristics 5a	Starting idle switching		Torque- travel	control 5
rev/min	cm³/1000 strokes .	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA 1050	0,7 bar 190,0-192,0 (187,0-195,0)	1110-1120 *	LDA 650	0,7 bar 169,0-175,0 (166,0-178,0		140,0-160,0 (136,0-164,0	_)	-
			LDA 500	0 bar 104,0-106,0 (101,0-109,0				

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

RVI 9,8 a 6 - 2 -

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES6P RS 419 + RQVPA 495-8	0,70	0 0,36 0,16	10,3-10,4 8,1-8,2 9,7-9,8 8,5-8,8
•	•		

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

①

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 RVI 8,8 d 4

1. Edition

PES 6 P 120 A 320 RS 419-2 RQV 275-950 PA 735 Komb.-Nr. 0 402 046 311 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 4 680 750 0 67

supersedes companyRVI engina MIDS 062045 144 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Port closing mark 9.5° after port closing cylinder 1.

A. Fuel Injection Pump Settings

Rotational speed rev/min 1	Control red travel mm 2	Fuel delivery car ³ /100 strokes 3	Difference crn³/ 100 strokes	Control red travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
500	8,5-8,6	11,6 - 11,8	0,5 (0,9)			
275	3,3-3,5	0,7 - 1,3	0,8 (1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		01.1	
deflection of control	Control rod travel	Control rod travel mm rev/min 2a	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	I
			_	<u> </u>	-	 	8	9	10	11
max.	1140	15,2-17,8	-	-	-	ca. 12	200	min. 4,9	250	1,0-1,2
ca. 62	7,0	1010-1020					275	3,3-3,5	450	3,3-3,8
	4,0	1065-1095				000 400			800	5,7-6,0
[]	1200	0 - 1.0				280-400				5,7-0,0
	1200	0 - 1,0				<u>3</u>			950	6,9

Torque control travel a = 0,60 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-co Test oil ter	elivery d stop np. 40°C (104°F) 2	Rotational-speed 2b limitation intermediate speed	Fuel delic high idle s	very characteristics 5a speed 5b	ldle	fuel delivery 6	Torque travel	Control rad
rev/min	cm ³ /1000 strokes . 2	rev/min 4a)	rev/min 4	cm ³ /1000 strokes	rev/min	cm ³ /1000 strakes	rev/min	travel mm
LDA 500	0,7 bar 116,0-118,0 (113,0-121,0)	1010-1020 *	LDA 950 LDA 500	0,7 bar 135,0-141,0 (132,0-144,0) 0 bar 101,0-103,0 (98,0-106,0)	100 275	140,0-160,0 (136,0-164,0) 7,0- 13,0 (4,0- 16,0)	950 750	8,5+0,1 7,9+0,1 8,2+0,2 8,0+0,3

Checking values in brackets

* 1 mm less control rod travel than col. 2

5

4.85

BOSCH

Geschäftsbereich KM. Kundendienst. Kfz-Ausrustung.
c. by Robert Bosch GmbH, D-7. Stuttgart 1. Postfach 50. Printed in the Federal Republic of Germany Imprime en Republique Federale d'Allemagne per Robert Bosch GmbM.

D. Adjustment Test for Manifold Pressure Compensator RVI 8,8 d 4 rev/min decreasing pressure - in bar gauge pressure

T	est	at	n

500

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	rım (1) .
PES 6 PRS 419-2	0,70		8,5 - 8,6
+ RQVPA 735		0	7,7 - 7,8
		0,25	8,3 - 8,4
		0,23	7,9 - 8,1

Notes.

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

En

40

WPP 001/4 DAF 11,6 u 4

1. Edition

En

PE 6 P 110 A 720 RS 441/Z

RSV 250-1200P5/493

supersed DAF

Komb.-Nr. 0 401 876 252/Z

compandHS 825 mil.

engine

Port closing difference = 0,9 - 1,0 mm between control-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Festoil-ISO 4113

(2.75 - 2.95)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel délivery cm³/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1000	11,9+0,1	12,8-13,1	0,4 (0,75)			
250	5,0-5,2	0,8-1,2	0,4 (0,75)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm		rque control Control rod travel mm
loose	800	0,3-1,0	•	-	-	ca.22	250	4,6	400	12,1-12,2
	x =						250	5,0-5,2	300	12,3-12,8
ca .54	10,9 4,0 1500	1220-1230 1330-1360 0,3-1,7					560-625	= 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	all-load stop		speed limitat. Sa chara		Starting Idle	fuel delivery 5	4a Idle stop		
rest oil to	emp. 40°C (104°F) cm ³ /1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control root travel mm	
LDA 1000	0,7 bar 128,0-131,0 (125,5-133,5)	1220-1230*	LDA 600	0 bar 86,0-89,0 (82,5-92,5)	100	245,0-285, RW = 19,5 -21,0 mm	0 250	5,1	

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

D. Adjustment Test for Manifold Pressure Compensator

DAF 11,6 u 4

- 2 -

Test at n =

600

rev/min decreasing pressure – in bar gauge pressure

Gauge pressure = bar Gauge pressure = bar mm (1) PE 6 PRS 441/Z	Pump/governor	Setting	Measurement	diminution Control rod travel- difference
+ RSVP 5/493 0,36 11,4-11,5 0,28 10,6-11,0		Gauge pressuro = bar	Gauge pressure = bar	mm (1)
		0,70	0,28 0	11,4-11,5 10,6-11,0

Notes:

(1) when n =

rev/min and gauge pressure =

bar (≈ maximum full-load control rod travel)

WPP 001/4 DAF 11,6 u 3

1. Edition

En

PE 6 P 110 A 720 RS 441-1/Z Komb.-Nr. 0 401 876 270/Z

RSV 250-900 P 7/479-1

supersedes DAF company DHS 825

Port closing difference = 0,9 - 1,0 mm betweencontrol-rod travel 9 mm and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Renches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,75-2,95)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
750	11,6+0,1	14,3-14,6	0,4 (0,75			
250	4,8-5,0	0,9-1,3	0,45(0,75			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1	r rated speed Control rod travel mm		intermed	ate rated	speed	Control- lever deflection in degrees 7	rev/min .	Control rod travel mm	rev/min	rque control Control rod travel mm
loose	800	0,3-1,0	•	-	-	ca.18	250	4,9	-	49
	X =		ļ				250	4,8-5,0		
ca.56	10,6 4,0* 1100						250-29	0 = 2,0		

** max. speed differnece = 20 - 30 min-1, between

The numbers denote the sequence of the tests control-rod travel = 10,6 und RW = 4,0 mm

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load step	Rotational- speed limitat		el delivery aracteristics	Starting t	uel delivery 5	(4a) Idl	e stop
rev/min	cm ³ /1000 strokes 2	changed to .) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
750	142,5~145,5 (140,0-148,0)	915-925*	-	-	100	RW = 19,5 - 21,0 mm		

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 DAF 8,3 o 10

1. Edition

PE 6 P 100 A 720 RS 447-1/Z

RSV 250-900 P 7/479-1

Komb.-Nr. 0 401 876 269/Z

DAF company DHT 825

Port closing difference = 0.9 - 1.0 mm betweencontrol-rod travel 9 mm

and control-rod travel 21 mm

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers A. Fuel Injection Pump Settings

Port closing at prestroke

Festoil-ISO 4113

(3,15-3,35)

mm (from BDCbei RW = 9,0-12,0 mm.

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Oifference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-coctrol valve) mm
750	12,7+0,1	14,2-14,5	0,35(0,60)			
250	5,3=5,5	0,9-1,3	0,35(0,55)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

•		Interm	nediate	rated	speed 6	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	rev/min	rque control Control rod travel mm 11
700	0,3-1,0	-		-	-	ca.17	250	5,4	•	-
X =		1					250	5,3-5,5		
11,7 ** 4,0	915-920 935-950						250-2	95 = 2,0		
	Control rod travel mm 2 700 x = 11,7 **	mm rev/min 2 3 700 0,3-1,0 x = 11,7 915-920	Control rod travel mm rev/rriin 2	Control rod travel mm rev/rriin 2 3 4 5 700 0,3-1,0 - x = 11,7 915-920	Control rod Control rod travel mm rev/rriin 2 3 4 5 5	Control rod Control rod travel mm rev/rriin 2 3 4 5 6	Control rod travel mm rev/min 2	Control rod travel mm rev/rriin 2 3 4 5 6 Control lever deflection in degrees 7 700 0,3-1,0 Ca.17 250 x = 250 11,7 915-920 250-2	Control rod travel mm rev/riin 2	Control rod travel mm rev/rriin 2

* max. speed differnece = 20 - 30 min-1, between The numbers denote the sequence of the tests $control-rod\ travel=11,7\ und\ RW=4,0\ mm$

C. Settings for Fuel Injection Pump with Fitted Governor

	Il-load stop	6 Rotational- speed limitat	11.3401	el delivery Starting fu- aracteristics Idle		uel delivery 5	(4a) Idi	/	
	emp 40°C (104°F) cm ³ /1000 strokes 2	Note. changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm	
750	142,0-145,0 (140,5-146,5)	915-920*	•	-	100	RW = 19,5 - 21,0 mm			

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 MAN 11.9 a 1

3. Edition

PES 6 P 120 A 720 LS 470 RQV 250-1100 PA 700 Komb.-Nr. 0 402 046 295 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67

supersed7s.84 companyMAN engine. D 28 66 KF 265 kW/2200 min⁻¹ MAN-Nr. 2-7497

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

iotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve
	2	3	100 strokes	mm 2	cm ³ /100 strokes	mm 6
750	12,5+0,1	23,8-24,0	0,5 (0,9)			
250	5,2-5,4	1,2-1,8	0,8 (1,2)			
250	5,2-5,4	1,2-1,0	0,8 (1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	i			Intermediate	rated sp	eed			Lower	rated	speed			Cliding	Janua Arrust
Degree of deflection of control	rev/min Control rod travel	mm .		Degree of deflection of control		Contr travel		d	Degree defiec	tion		Control travel	rod	Silding s	ileeve travel
lever 1	mm 2	rev/min (lever 4	rev/min 5	mm 6		•	of con lever 7	(rgi	rev/min 8	mm 9	3	rev/min	mm 11
max.	1130	15,2-17,	8	-	-		-		ca.	10	100	min.		300	1,7-2,0
ca. 62	10,3 4,0 1350	1140-115 1225-125 0 - 1,0	5								250 360-	5,2-! 420 =	2,0	1100	6,0-6,2 8,3
									3a						

Torque control travel a = 1,15 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle :	very characteristics 5e	idle	fuel delivery 6	Torque- travel	control 5
ev/min cm³/1000 strokes		rev/min 4a	rev/min cm³/1000 strokes		rev/min	1	rev/min	Control rod trave: mm
	2	3	4	5	6	7	ا ھا	Q
LDA	1,0 bar	1140-1150*	LDA	1,0 bar	100	225,0-245,0	750	12.5+0
750	238,0-240,0		650	239,0-245,0		(221,0-249,0		
	(235,0-243,0			(236,0-248,0)		(221,0-243,0		
LDA	1,0 bar		LDA	[* . * . * . * . * . * . * . * . * . *			900	12,1+0
			LDA	0,4 bar			1000	11,5+0
1100	213,0-219,0		500	191,0-197,0			1	
	[(210,0-222,0])	İ	(188,0-200,0)				
			LDA	0 bar	ľ '	•		
			500	139_0-141_0				

Checking values in brackets

(136,0-144,0)

* 1 mm less control rod travel than col. 2 5 . 85

D. Adjustment Test for Manifold Pressure Compensator

MAN 11,9 a 1 -2-

Testatn =

500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE6PLS 470 +RQVPA 700	1,0	0 0,40 0,24	12,5-12,6 9,3-9,4 11,1-11,2 10,2-10,6

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

WPP 001/4 DEE 10,1 b

1. Edition

US-PES 6P 110 A 720 RS 3086 US-RSV 400-1050 PO/492-1

supersedes =

Komb.-Nr. 9 400 231 174

company John Deere

6619 A

Values apply to fuel-injection test tubing 9 681 271 004

215 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Poit closing at prestroke

Testoil-ISO 4113

3,45-3,55(3,40-3,60)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning
rev/min	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes	mm 6
1050	13,9+0,1	21,4-21,6	0,4 (0,75			
400	6,0-6,2	1,9-2,5	0,45(0,75			

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

Degree of	control mm tev/min				Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm	
loose	800 X =	0,3-1,0	-	•		ca. 21	400 400	5.6 6,0-6,2	1050 700	13,9-14,0 14,3 - 14,6
ca. 42	4,0	1090-1100 1185-1215 0,3-1,7								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop	6 Rotational- speed limitat	(3a) Fu	uel delivery naracteristics	Starting t	luel delivery 5	(4a) Idl	e stop
rev/min	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to in rev/min	řev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
LDA 1050	1,0 bar 213,5-215,5 (210,5-218,5)	1090-1100*	LDA 700	1,0 bar 223,5-226,5 (220,0-230,0)	100	135,0-155	0 400	6,1
			LDA 500	0 bar 136,5-139,5 (133,0-143,0)				

Checking values in brackets

* 1 mm less control rod travel than col. 2

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D. Adjustment Test for Manifold Pressure Compensator

DEE 10,1 b

- 2 -

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Maasurement	diminution Control rod travel- difference
	Gauge pressure = bar	} 3uge pressure = bar	mm (1) .
US-PES6PRS 3086 +RSV P0/492-1	0,36	0,20	13,8-14,0 12,1-12,3

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 SSC 10,5 b

1. Edition

PES 6 P 100 A 320 RS 3087-1

RQV 300-1250 PA 629

supersedes

compan&SCM engine 6 L 520 AN 148 kW

Komb.-Nr. 0 402 046 743

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2.75-2.95) mm (from BDC);

mm (from BDC); RW = 9.0-12.0 mm

	The second second second	16.61-6.31				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (forque-control valve) mm
1250	12,5+0,1	10,5-10,7	0,35(0,6)			
300	8,5-8,7	1,4-2,0	0,35(0,55			1
1						
			1	ı	1	1

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	e rated sp	eed	Lower rated	speed		01141-	
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 2a	Degree of deflection of control lever	rev/min 5	Control rod trave! mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
max.	1310	15,2-17,8	-	-	-	ca. 17	100		300	1,8-1,9
ca. 65	11,5 4,0	1290-1300 1385-1415		! !			300	8,5-8,7	850 1250	4,7-5,0 7,9
	1550	0 - 1,0				350-460				
						39				

Torque control travel a = - mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roe Test oil ten		Rotational-speed (26) limitation intermediate speed	Fuel delic high idle s	very characteristics 58 poeed 5b	idle	fuel delivery 6	Torque- travel	control 5
rev/min	cm³/1000 strokes .	rev/min 4a	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 atrokes	rev/min	travel mm
•	-	3	•	5	6	7	8	9
1250	105,0-107,0 (103,0-109,0)	1290-1300 *	-	-	100	165,0-185,0 (161,0-189,0)	-	-
					300	14,0-20,0 (11,5-22,5)		

Checking values in brackets

 $^{\circ}$ 1 mm less control rod travel than cot. 2 5.85

BOSCH

Festoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 SSC 10,5 c

1. Edition

PES 6 P 100 A 320 RS 3087-1

RQ 400/1100 PA 699

company: SSCM 6 L 520 S 1

Komb.-Nr. 0 402 046 746

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

(2,75-2.95)

mm (from BDC) RW=9,0-12,0 mm

		m,, 0 - L, 50 /		•	-	
Rotational spred rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1100	12,5+0,	1 10,3-10,5	0,35(0,6		*	v
400	7,4-7,	6 1,0-1,4	0,35(0,5	5)		
						,

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min 1	Control rod	Full-load to Setting po rev/min 3			rev/min	Idle spec Setting p rev/min 7	Control red travel	Test spe	cifications 5 Control rod travel	Torque o	Control rod (3) travel mm
650 VH=	19,2-20,8 nax. 46°	650	20,0	11,5 4,0 1350			7,5	400 450	7,4-7,6 490=2,0	1100 650	12,5-12,6 12,5-12,7

on flyweight assembly dimension a

1145-1160 min Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel delivery characteristics		(E	Starting f	
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes		rev/min 6	Control rad barel cm ³ /1000 strokes:/ mm
1100	103,0-105,0 (101,0-107,0)	-	-	-		100	170,0-190,0 (166,0-194,0) 10,0-14,0 (7,5-16,5)

Checking values in brackets

40

WPP 001/4 VOL 12,0 1

1. Edition

PE 6 P 120 A 320 RS 3088 Komb.-Nr. 0 401 876 724 RSV 200-900 P 4/421

supersedes company Volvo TO 120 G 245 kW

assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

Values only apply to test nozzle-and-holder

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(2,35-2,55)

mm (from 80C; RW=9,0-12,0 mm

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
700	12,7+0,1	21,1-21,3	0,5(0,9)			2,5±0,1
250	3,6-3,8	1,6-2,0	0,5(0,7)			(2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1, ,	Frated speed Control rod travel mm		Interme	ediate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	Control rod travel mm
loose	800	0,3-1,7	-	-	-	ca. 22	250	3,2	-	-
	X	= 5.5					250	3,6-3,8		
ca. 60	11,7 4,0 1160	940-950 995-1025 0,3-1,7					300-3	60 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp. 40°C (104°F)	Rotational- speed limitat		3a Fuel delivery characteristics		uel delivery 5	4a idle stop		
rev/min 1	cm³/1000 strokes 2	changed to) rev/min 3	fev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control roo travel mm	
700	211,0-213,0 (208,0-216,0)	940-950*	-	-	100	390,0-440 (386,0-444 =20,0-21, mm RW	,0)	3,7	
					250	16,0-20,0 (13,0-23,0)		

Checking values in brackets

* 1 mm less control rod travel than col 2

40

WPP 001/4 VOL 12,0 1 1

1. Edition

En

PE 6 P 120 A 320 RS 3088 RSV 200-1000 P 4/421 Komb.-Nr. 0 401 876 735 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

supersedes companyVolvo engine TD 121 G

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,4-2,5

Port closing at prestroke (2,35-2,55)

mm (from BDC)

mm	Fuel delivery	Control rod travel	cm ³ / 100 strokes	Fuel delivery cm ³ /100 strokes	Control rod travel	Rotational speed rev/min
2,5 [±] 0,1	3	2	0,5(0,9)	16,9-17,1	11,4+0,1	700
(2,2-2,9)		· · · · · · · · · · · · · · · · · · ·	0,5(0,7)	1,6-2,0	4,0-4,2	250
	:					
	:					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed		Interme	diate rated	speed	(4)	Lower	rated speed	(3) To	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	800	0,3-1,7	-	-	-	ca. 22	250	3,6	-	-
	Χ =	: 4,0					250	4,0-4,2		
ca. 58	10,4 4,0 1230	1040-1050 1060-1090 0,3-1,7					280-3	0=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	st oil temp. 40°C (104°F) speed limital			uel delivery naracteristics	Starting I	fuel delivery 5	4a Idle stop	
rev/min	cm ³ /1000 strokes	changed to) rev/min	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
700	169,0-171,0 (166,0-174,0)	1040-1050*	-	-	100	390,0-440, 386,0-444,		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

40

WPP 001/4 PEN 12,0 d 1

1. Edition

RSV 650-750 F 4/421

PE 6 P 120 A 320 RS 3088-2 Komb.-Nr. 0 401 876 731

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

company Volvo-Penta TD 121 GG 230 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,4-2,5 (2,35-2,55)

mm (from BDC)

Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
11,4+0,1	18,5-18,9	0,5(0,9)			2,5 [±] 0,1
3,2-3,4	2,0-2,4	0,5(0,7)			(2,2-2,9)
	mm 2 11,4+0,1	travel cm ¹ /100 strokes 3 11,4+0,1 18,5-18,9	travel mm 2 cm ¹ /100 strokes 2 11,4+0,1 18,5-18,9 0,5(0,9)	travel mm 2 cm ¹ /100 strokes 2 cm ¹ /100 strokes 4 cm ¹ / 100 strokes mm 2 cm ¹ / 100 strokes 0,5(0,9)	travel mm 2 cm ¹ /100 strokes Cm ³ /100 strokes mm cm ³ /100 strokes mm cm ³ /100 strokes mm 2 3 11,4+0,1 18,5-18,9 0,5(0,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm	_	Intermed	pate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	3 To	rque control Control rod travel mm
loose	800	0,3-1,0	••	_	-	ca. 32	650	3,3	-	-
	X	= 2.75					650	3,2-3,4	1	
ca. 39	10,4 4,0 930	750-755 776-789 0,3-1,7					630-6	90=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp 40°C (104°F)	Rotational- speed limitat.	Sa Fuel delivery characteristics		Starting f	uel delivery 5	4a Idle stop		
rêv/min 1	cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control root travel mm	
700	185,0-189,0 (183,0-191,0)	750-755*	-	-	100	390,0-440 =20,0-21, mm RW		3,3	

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Augrustung. 4: 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany. 5.85 Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 SSC 10,5 a 1

1. Edition

PES 6 P 120 A 320/RS 3092-1

ROV 400-750 PA 708

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

supersedes companySSCM engine 61 520-S 25

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
Port cleaing at prestroke (2, 75, 2, 95)

RW = 9.0-12.0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm3/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	14,4+0,1	23,0-23,2	0,5 (0,9)			
400	5,2-5,4	1,2-1,8	0,8 (1,2)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed		Lower	rated	speed			Clidia	
deflection	rev/min Control rod travel	Control rort	(1)	Degree of deflection of control		Control travel	rod	Degra	tion		Control travel	i rod	Silding s	leeve travel
	mm 2	rev/min 3	20	lever	rev/min 5	mm 6	①	of con lever 7	itroi	rev/min	mm 9	3	rev/min	mm 11
-	13,4 4,0 1,0	750-755 780-793 900		•	•	-		ca.	10		min. 7,1-3		-	-
						•		3						

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b timitation intermediate speed	Fuel deli- high idle s	very characteristics (5a peed (5b)	Starting Idle switchli		Torque- travei	Control od
rev/min	cm ³ /1000 strokes .	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1090 strokes	rev/min	travei mm
<u> </u>	2	3	4	5	6	7	8	9
700	230,0-232,0 (227,0-235,0)	750-755 *	-	-	100	175,0-195,0 (171,0-199,0)	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.85

BOSCH

WPP 001/4 BAO 31.8 a 2 1. Edition

PE 12 P 130 A 120 RS 3094 Komb.-Nr. 0 401 830 703 1-12-9-4-5-8-11-2-3-10-7-6

ROV 350-900 PA 618

supersedes Baudouin

company:

engine:

 $0-45-60-105-120-165-180-225-240-285-300-345 \pm 0,5^{\circ} (\pm 0,75^{\circ})$ DHK:1 688 901 019 Line: 1 680 750 067

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	(2,75-2,95) Fuel delivery	Difference	Control rod travel	0 ~ 12.0 mm Fuel delivery	Spring pre-tenzioning (torque-control valve)
rov/min 1	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm³/100 strokes	mm 6
900	12,2+0,1	30,9 - 31,2	0,6(1,0)			
350	4,8-5,0	2,0 - 2,6	1,0(1,4)			
				}		

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	speed			Intermediate	rated sp	eed	Lower rated	speed				
deflection	rev/min Control rod travel mm 2	Control rod travel inim rev/min 3	(a) (2a)	Degree of deflection of control lever	fev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control root travel mm (3	rev/min	mm
max.	940	15,2-17	.8	•	-	•	ca.30	350	4,8-5,	0	325 1	,2-1,6
ca. 62	11,2 4,0 1150	940-950 1005-103 0 - 1	35				350-450				500 3 750 6 900	,1-3,8 ,0-6,4 7,9
							3					

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil te	delivery od stop mp. 40°C (104°F) 2	Rotational-speed 2b timitation intermediate speed	Fuel deli- high idle :	very characteristics 5e	Starting Idle switchir		Torque- travel	Control cod	
r e v/5100	cm ³ /1000 strokes .	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm	
900	309,0-312,0 (305,0-315,0		-	-	350	20,0-26,0 (16,0-30,0)	-	•	

Checking values in brackets

* 1 mm less control rod travel than col. 2 5.85

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 GUS 31.8 a 1 1. Edition

PE 12 P 130 A 120 RS 3094-2

RQV 350-750 PA 602-2

supersedes

Komb.-Nr. 0 401 830 709

Guascor company: E 318

1-12-9-4-5-8-11-2-3-10-7-6

 $0-45-60-105-120-165-180-225-240-285-300-345 \pm 0.5^{\circ} (\pm 0.75^{\circ})$

DHK: 1 688 901 019

Line: 1 680 750 706

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (3.55-3.75)mm (from BDC)

		10,00-0,707				
Rotational apeed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
750	10,0+0,1	24,5 - 24,8	0,6(1,0)			
350	3,8-4,0	2,1 - 2,7	1,0(1,4)			7
:						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated spe Degree of fre		Control rod		Intermediate Degree of	ree of Control rod				Lower rated speed Degree of Control rod				Sliding sleeve t		avel
deflection C of control	Control od travel	travel		deflection of control		travel		deflec	tion		travel			(①
1 2	2	3	•	4	rev/min 5	mm 6	(4)	lever 7		rev/min 8	тт 9	(3)	rev/min 10	mm 11	
	9,0 4,0 1,0	750-755 776-789 900		•	•			ca.		100 350	min.5 3,8-4		1	-	

Torque control travel a =

C. Settings for Fuel injection Pump with Fitted Governor.

Full-load of Control-ro Test oil te	delivery od stop mp. 40°C (104°F) 2	Rotational-speed (2) limitation intermediate speed	Fuel deli- high ide :	very characteristics 5a	Starting Idle switching		Torque- travel	control 5
rev/min	cm ³ /1000 strokes .	rev/min 44	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
750	245 0 240 0	750 755 +	 	3	950	17	8	9
750	245,0-248,0	750-755 *	-	-	350	21,0-27,0	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 SSC 14,0 a

3. Edition

PE 12 P 100 A 520 RS 3103 Komb.-Nr. 0 401 840 708

RQV 375-1000 PA 639

supersedes 9.83

company: SSCM

Poyaud V 12-520 AN

1-8-5-10-3-7-6-11-2-9-4-12

 $0-15-60-75-120-135-180-195-240-155-300-315^{\circ} \pm 0,6^{\circ} (\pm 0,75^{\circ})$

219 kW (298 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	11,5+0,1	9,3 - 9,5	0,3(0,6)			
375	7,6-7,8	0,8 - 1,4	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed		intermediate	rated sp	eed	Lower rated	speed		Clining	lague tecuel
deflection	rev/min Control rod travel mm 2	Control rod travel mm 2a 3	of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
max.	1050	15,2-17,8	-	-	-	ca. 19		min. 9,2		0,9-1,5
ca. 65	10,5 4,0 1250	1040-1050 1105-1135 0 - 1,0				375-475			000	5,5-5,8 7,9
						3a				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roi Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel deliv	rery characteristics 5e	Starting Id!e switchir	\sim	Torque- travel	control 5
rev/min	cm ³ /1000 strokes .	rev/min 44	rev/min	cm ² /1000 strakes	rev/min	cm ² /1000 strokes	rev/min	travel mm
1000	93,0-95,0 (91,0-97,0)	1040-1050 *	-	-	100	230,0-250,0 (226,0-254,0	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

 \odot

Test Specifications Fuel Injection Pumps (1)PP 001/4 KHD 9,6 q and Governors 1. Edition

PES 6 P 110 A 720 RS 3104

RQV 300-1150 PA 549-2

supersedes KHD company BF6L 413 FRC engine: 220 kW

Komb.-Nr. 0 402 046 761

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning
ev/min	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes	(torque-control valve)
1150	14,4+0,	16,9-17,1	0,4(0,75)			
300	7,6-7,8	1,6-2,2	0,4(0,7)			
			1]	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediat	e rated sp	eed		Lower rated	speed		T	
deflection of control	rev/min Control rod travel mm 2	Control rod (1/2 travel mm rev/min 3	of control	rev/min	Control travel mm	rod	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	l
max.	1225	15,2-17,8	-	-		•	ca. 20	100	min. 9,1	250	0,5-0,8
ca. 55	13,4 4,0 1450	1190-1200 1295-1325 0 - 1,0					320-500	300	7,6-7,8	550 850 1150	3,6-4,2 5,4-5,7
							3 a				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten	elivery d stop np. 40°C (104°F) 2	Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle :	Fuel delivery characteristics 5a high idle speed 5b		fuel delivery 6	Torque- travel	control 5
rev/min	cm ³ /1000 strokes . 2	rev/min 49	rev/min 4	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
LDA 1150	0,9 bar 169,0-171,0 (166,0-174,0		LDA 450	0 bar 123,0-125,0 (120,0-128,0	100	135,0-155,0 (131,0-159,0		_

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

KHD 9,6 q

- 2 -

Test at n =

450

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
•	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 P. RS 3104 + RQVPA 549-2	0,90	0 0,5 0,36	14,4-14,5 12,4-12,5 13,9-14,0 12,8-13,0

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 UNI 9.6 a 5. Edition

PES 6 P 110 A 720 RS 3105

RQV 275-1150 PA 642

supersedes 2.83

Komb.-Nr. 0 402 046 749

IVECO-UNIC

0 402 046 739

8220-22

0 402 046 731

176 kW (239 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1150	11,7+0,	12,2 - 12,4	0,4(0,8)			
275	5,3-5,5	0,9 - 1,5	0,4(0,7)			
:						

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		C11-4	
deflection	rev/min Control red travel	Control rod (1a	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Sliding sleeve travel	
lever	mm 2	rev/min (28	lever 4	rev/min	mm 4	lever	rev/min	mm ③	rev/min	mm
-			+	3	0	 	8	9	10	11
max.	1190	15,2-17,8	3 -	-	-	ca. 11	100	min.6,9		0,9-1,1
ca. 60	10,7	1190-1200 1280-1310					275	5,3-5,5	450 850	2,9-3,3 5,3-5,5
ļ 1	1400	0 - 1,0	1		·	280-375			1150	8,0
						<u>3a</u>		•		

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load di Control-roo Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel delic high idle s	very characteristics 5e peed 5b	Starting Idle switching	fuel delivery (6)	Torque- trayel	control 5
rev/min 1	cm ³ /1000 strokes 2	Pev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	traval mm 9
LDA 1150	0,7 bar 122,0-124,0 (119,0-127,0)	1190-1200*	LDA 400	0 bar 87,0-89,0 (84,0-92,0)	100	160,0-180,0 (156,0-184,0		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.85

BOSCH

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D. Adjustment Test for Manifold Pressure Compensator

I'NI 9,6 a

- 2 -

Testate =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES6PRS 3105 mit RQVPA 642	0,70	0 0,23 0,21	11,7 - 11,8 10,5 - 10,6 11,3 - 11,4 10,8 - 11,0

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

123

(3)

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 RVI 12,0 h

1. Edition

En

PES 6 P 120 A 320 RS 3119 RQ 750 PA 597 Komb.-Nr. 0 402 046 745 Calibrating nozzle-and holder assembly 0 688 901 019 Test-pressure line 1 680 750 067

supersedes-

company: RVI

MIDR 063540

estoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Fump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (3)

(3.45-3.65)

mm (from BDC)RW = 9,0-12,0 mm

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve)
700	14,8+0,1	33,1-33,3	0,5(0,9)			
250	4,8-5,0	1,5-2,1	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG ch	Control rod	1				rev/min	Idle spec Setting previous	Control rod travel		cilications Control rod travel mm		Control rod (3)
-	•		-	-	13,8 4,0 900	787-800	-	•	-	-	-	-

Torque-control travel on flyweight assembly dimension a =

-

Speed regulation: At

750-755 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop	Fuel delivery characteristics			Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes		rev/min	Contro: red travel cm³/1000 strokes / mm 7	
700	331,0-333,0 (328,0-336,0)	-	-	-		-	•	

Checking values in brackets

5.85

BOSCH

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WPP 001/4 VOL 10,0 q 3

2. Edition

PE 6 P 110 A 320 RS 3108

RQV 325-1100 PA 232-1

supersedes 84 compayolvo-BM

Komb.-Nr. 0 401 846 781

engineEM/TD 100 G

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
ev/min	mm 2	cm ³ /100 strokes 3	100 strokes	mm 2	cm ³ /100 strokes	mm 6
700	11,5+0,1	14,7-14,9	0,4(0,8)			2,5 [±] 0,1
325	4,0-4,2	1,7-2,1	0,3(0,5)			(2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in f

B. Governor Settings

Upper rated :	speed		Intermediate	e rated sp	eed	Lower rated	speed			
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod (18 travel mm rev/min (28 travel	of control	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min mm	3	Sliding s	mm
max. *	1150	15,2-17,8	-	-	-	ca. 13	100 min.5	-	300	1,5-1,6
ca. 46	10,5 4,0 1350	1140-1150 1210-1240 0-1,0	1		:		325 4,0-4 340-400=2,			3,5-4,1 5,4-5,6 8,0
						3				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Fulf-load of Control-ro Test oil ter	intermediate speed		high idle s	rery characteristics (5a)	Starting Idle switching	\circ	Torque-	control (
rev/min 1	cm ³ /1000 strokes .	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel
LDA 700	0,9 bar 147,0-149,0 (144,0-152,0)	1140-1150*	LDA 1000	(135,0-145,0	100	170,0-200,0 =20,0-21,0 mm RW	-	9
			100 700	0 bar 100,0-102,0 (97,0-105,0)				

Checking values in brackets

VOL 12,0 q 3

- 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 PRS 3108 + RQVPA 232-1	0,90	0 0,61 0,29	11,5-11,6 9,1-9,2 11,3-11,4 9,2-9,4

Notes:

(1) when n =

rev/min and gauge pressure =

WPP 001/4 VOL 10,0 q 4

1. Edition

PE 6 P 110 A 320 RS 3108 Komb.-Nr. 0 401 846 785

RQV 250-1100 PA 589

supersedes -

Volvo

engine

N 10/TD 101 GB

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

	3,0-3,1	
Port closing at prestroke	(2,95-3,15)	mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	11,7+0,1	15,1 - 15,3	0,4(0,75)			
250	4,1-4,3	1,9 - 2,3	0,3(0,6)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	ed		Lower	rated	speed			Sliding	leeve travel
Degree of deflection of control lever	rodtravel	Control rod travel mm rev/min 3	(1a) (2a)	Degree of deflection of control lever	rev/min	Control travel mm	rod	Degre deflect of con lever	tion	rev/min	Control ro travel mm	3	rev/min	mm
max.	1180	15,2-17	,8	-	-	-		ca.	9	100	min.5	,6	300 1	,6-2,1
ca.61	10,7 4,0 1350	1140-119 1210-124 0 - 1	40							250 320 <i>-</i> 38	4,1-4 30 = 2	2,0	700	,8-5,6 ,4 -6,6
								(3e)				1	100	7,3

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed (2b) Fuel deliv high idle s intermediate speed		very characteristics 5a	Starting Idle switching		Torque- travel	Control rod	
rev/min 1	cm³/1000 strokes .	rev/min 4a)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm	
LDA 700	0,9 bar 151,0-153,0 (148,0-156,0	1140-1150*	LDA 1000 LDA 700	0,9 bar 140,0-144,0 (137,0-147,0 0 bar 115,5-118,5 (113,0-121,0)	170,0-200,0 19,0-23,0 (16,5-25,5)	-	-	

Checking values in brackets

VOL 10,0 q 4

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor ,	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE6PRS 3108 +RQVPA 589	0,90	0 0,54 0,36	11,7 - 11,8 9,9 - 10,0 11,2 - 11,3 10,0 - 10,2

Notes:

(1) when n =

rev/min and gauge pressure =

WPP 001/4 VOL 10,0 q 6

1. Edition

PE 6 P 110 A 320 RS 3108 V

RQV 250-1100 PA 649

Komb.-Nr. 0 401 846 784

companVOIVO engine: B 10/THD 101 FD 210 kW

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,95-3,15) mm (from BDCRW=9,0-12,0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	13,7+0,1	18,0-18,2	0,4(0,75)		2,5±0,1
250	5,4-5,6	3,2-3,6	0,3(0,6)			(2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed	1	Intermediate	rated sp	eed	Lower rated	speed		Sliding	ieeve travel	
Degree of deflection of control	rev/min Control rod travel	Control rod (la)	Degree of deflection of control		Control rod travel	Degree of deflection		Control rod travel	Sharrys	1	
lever 1	mm 2		lever 4	rev/min 5	mm 4	of control lever 7	rev/min 8	mm 3	rev/min	mm 11	
max.	1175	15,2-17,8	-	-	-	ca. 11	100	min.6,7		0,7-0,9	
ca. 65	12,7 4,0 1350	1140-1150 1220-1250					250 345-	5,4-5,6 405=2,0	660-	3,4-3,9 6,4-6,6	
	1350	0-1,0			,	(3a)			1100	7,3	

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ros Test oil ten		Rotational-speed (2b) limitation intermediate speed	Fuel deliv	rery characteristics 5a	Starting idle switching		Torque- travel	Control Control rod
rev/min	cm ³ /1000 strokes	rev/min 4e	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
10A 700	1,2 bar 180,0-182,0 (177,0-185,0		10A 700	0 bar 108,0-110,0 (105,0-113,0)	160,0-190,0 =20,0-21,0 mm RW	-	-
					250	32,0-36,0 (29,5-38,5)		

Checking values in brackets

VOL 10,0 q 6

- 2 -

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 PRS 3108 V + RQVPA 649	1,2	0 0,72 0,36	13,7-13,8 9,8-9,9 12,8-12,9 10,9-11,0

Notes:

(1) when n =

rev/min and gauge pressure =

WPP 001/4 STE 12.0 b

3. Edition

PE 8 P 110 A 121 RS 3113

RQ 300-1100 PA 646

Komb.-Nr. 0 401 858 700

1-5-4-8-6-3-7-2 je $45^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

supersedes .83 company.STEYR

engine: WD 815.64

240 kW (326 PS)

estoil-ISO 4113

All test apecifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed rev/min		Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	11,7+0,	1 14,9-15,1	0,4(0,75			
300	6,1-6,	1,5-2,1	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	ok (1)	Full-load (Setting po			cifications (4)	Idle spe	•		cifications (5)	Torque d	control 3
rev/min	Control rod travel mm	rev/min 3	Control rad travel com 4	Cantral rad travel rnrn 5	rev/min	rev/min 7	Control rod travel		Control rod travel mm	rev/min	travel
600	15,6-16,4	600	16,0	10,7 4,0 1400	1145-1160 1200-1230 0-1,0	300	6,2	300	min.7,6 6,1-6,3 40= 2,0	-	•

Torque-control travel on flyweight assembly dimension a

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rold stop 3a	Fuel deliv	ary characteristics 3b	Starting f	
rev/min	cm ³ /~1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	Control red travel cm ³ /1000 strokes:/ mm
LDA 1100	0,9 bar 149,0-151,0 (146,0-154,0)	-	LDA 500	0 bar 96,0-98,0 (94,0-100,0)	100	200,0-240,0 (196,0-244,0)

Checking values in brackets

05.85

BOSCH

rev/min decreasing pressure - in bar gauge pressure Testatin = 500 P.mp/governor Measurement Control rod traveldifference Gauge pressure = bar | Gauge pressure = bar (1) PE 8 P..LS 3113 11,7-11,8 9,3-9,4 11,2-11,3 9,8-10,0 0,90 + RQ..PA 546 0,53 0,39

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

- 2 -

WPP 001/4 VOL 12,0 k 1

2. Edition

PE 6 P 120 A 320 RS 3118 Komb.-Nr.0 401 846 782

ROV 250-1100 PA 657-1

superset2-83

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

company Volvo engine 282 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

'ev/min I	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes	(torque-control valve)
700	13,3+0,1	23,8-24,1	0,5(0,9)			2,5 [±] 0,1
250	3,3-3,5	1,9-2,3	0,5(0,7)			(2,0-2,9)

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated Degree of deflection of control lever	rev/min Control rod travel mm	mm	(e)	Intermediate Degrae of deflection of control lever	rated speriod	Control rod travel mm 4	Lower rated Degree of deflection of control lever	rev/min	Control rod travel mm 3	Sliding s	mm
max. ca. 61	1180 12,3 4,0 1350	15,2-17,8 1140-1156 1220-1256 0-1,0	0 0	•	1	-	ca. 9	250	min.5,0 3,3-3,5 340=2,0	200 430 660	0,7-0,9 3,4-3,9 6,4-6,6 7,3

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle s	very characteristics 5a	Starting Idle switching		Torque- travel	control 5
rev/min	cm ³ /1000 strokes .	rev/min 4a	rev/min	cm³/1000 strokes	rev/min	сті ³ /1000 strokes	rev/min	travel mm
LDA 700	0,9 bar 238,0-241,0 (235,0-244,0		LDA 700	0 bar 138,0-142,0 (135,0-145,0		240,0-290,0 =20,0-21,0 mm RW	-	

Chacking values in brackets

* 1 mm less control rod travel than col. 2

VOL 12,0 k 1

- 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	Control rod travel-
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 PRS 3118 + RQVPA 657-1	0,90	0 0,77 0,17	13,3-13,4 8,5-8,6 13,1-13,2 8,6-8,8
		₹	

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 12,0 K 2

En 2. Edition

PE 6 P 120 A 320 RS 3118 Komb.-Nr. 0 401 846 779

RQV 300-1050 PA 657-2

supersedes 12.83

company: Volvo BM TD 121 F

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

S-A-A		(2.55-2.75)	mm (from BDC)	100 3,0 -	12,0 11111	
	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	100 strokes	mm 2	cm ³ /100 strokes	mm 6
700	12,3+0,1	21,8 - 22,2	0,5(0,9)			2,5 <u>+</u> 0,1
300	3,7-3,9	2,2 - 2,6	0,5(0,7)			(2,2 - 2,9)
					}	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	1			Intermediate	rated sp	eed		Lower rated	speed				
Degree of deflection of control	rev/min Control rod travel	Control rod trævel mm	(E)	Degree of deflection of control		Contr travel	ol rod	Degree of deflection of control		Control ro	d	Sliding	feeve travel
lever 1	mm 2	rev/min 3	29	lever 4	rev/min 5	mm 6	•	lever	rev/min 8	mm 9	3	rev/min 10	mm 11
max.	1130	15,2-17	,8	-	4		-	ca.10	100	min.5,	2	250	1,1-1,3
ca.64	4,0		10						300 350-4	3,7 - 3, 10 =2,		450 660	3,7-4,2
	1325	0 - 1	,0										6,4-6,6
								③				985 050	7,4

Torque control travel a =

mn

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel delic high idla :	rery characteristics 5a speed 5b	Starting Idle switching		Torque- travel	Control ro
rev/min 1	cm ³ /1000 strokes	rev/min 4e)	rev/min 4	cm ³ /1000 strokas	rev/min	cm ³ /1000 strokes	rev/min	travel mm
LDA 700	1,0 bar 218,0-222,0 (216,0-224,0		1000	1,0 bar 215,5-220,5 (213,0-223,0) 0 bar 131,0-135,0 (129,0-137,0)		240,0-280,0 = 20,0-21,0 mm RW	-	~

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.85

BOSCH

VOL 12,0 K 2

Testatn =

500

rev/min decreasing pressure - in bar gauge pressure

102 12,

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE6PRS 3118 + RQVPA 657-2	1,0	0 0,68 0,12	12,3 - 12,4 8,5 - 8,7 12,1 - 12,2 8,9 - 9,1

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 VOL 12,0 k 4

1. Edition

PE 6 P 120 A 320 RS 3118-1 Komb.-Nr. 0 401 846 788

RQV 250-900 PA 657-3

supersedes -

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test company: TD 121 FA

tubing 1 680 750 067

206 kW

Volvo

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Port closing at prestroke

Rotational speed /ev/min 1	travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2 ~	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control ∀alve) mm
700	10,7+0,1	18,1 - 18,4	0,5(0,9)			2,5 + 0,1
250	3,3-3,5	1,8 - 2,3	0,5(0,7)			(2,2 - 2,9)
						•

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediat	rated sp	eed	Lower rated	speed		011-11-	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (2s	of control	sautaia	Control rod travel	Degree of deflection of control		Control rod travel	Sliding s	ieeve travel
1	2	3	4	rev/min 5	mm (4)	lever 7	rev/min 8	mm (3) 9	rev/min 10	mm 1 t
max.	980	15,2-17,8	-	-	-	ca. 7	100	min.4,8,	250	1,2-1,3
ca.59	9,7 4,0 1100	940-950 980-1010 0 - 1,0					250 280-34		700	3,5-3,9 6,4-6,6 7,7-7,9
						3a				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten	elivery d stop np. 40°C (104°F) 2	Rotational-speed (2b) limitation intermediate speed	Fuel deli- high idle :	rery characteristics 5e toesd 5b	idle	fuel delivery 6	Torque- travei	control 5
rev/min 1	cm ³ /1000 strokes .	rev/min 4a)	rev/min 4	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min 8	travel mm
LDA 700	0,7 bar 181,0-184,0 (178,0-187,0)	940 - 950 *	LDA 700	0 bar 150,0-154,0 (147,0-157,0	1	240,0-280,0 = 20,0-21,0 mm RW	-	••

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.85

K13 BOSCH

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VOL 12,0 k 4

- 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE6PRS 3118-1 +RQVPA 657-3	0,70	0 0,34 0,17	10,7 - 10,8 9,1 - 9,2 10,5 - 10,6 9,2 - 9,4

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 VOL 12,0 k 5 1. Edition

PE 6 P 120 A 320 RS 3118-1 Komb.-Nr. 0 401 846 789

RQV 250-1100 PA 657-4

aupersades -

Volve company: 121 FB engine

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test

210 kW

tubing 1 680 750 067

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (forque-control valve) mm
10,7+0,1	18,1 - 18,4	0,5(0,9)			2,5 <u>+</u> 0,1
3,3-3,5	1,8 - 2,3	0,5(0,7)			(2,2 - 2,9)
	mm 2 10,7+0,1	travel cm ³ /100 strokes 3 10,7+0,1 18,1 - 18,4	travel mm cm³/100 strokes 2 cm³/ 100 strokes 4 cm³/ 100 strokes 4 0,5(0,9)	travel cm³/100 strokes cm³/ 100 strokes cm³/	travel cm³/100 strokes cm³/ 100 strokes cm³/ 100 strokes mm cm³/100 strokes mm 2 cm³/ 100 strokes 3 10,7+0,1 18,1 - 18,4 0,5(0,9)

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	00 0		Lower rated	speed		0	
Degree of deflection of control lever	rev/min Control rod travel mm 2	ULU ILEADI		Degree of deflection of control lever	rev/min	Contro travel mm 6	l rod	Degrate of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	
max.	1 180	15,2-17,	8	-	- ,		•	ca. 7	-	min.4,8	250	1,2-1,3
ca.63	9,7 4,0 1350	1160-117 1210-124 0 - 1,	0		1				250 280 <i>-</i> 34	3,3-3,5 10 =2,0		3,5-3,9 6,4-6,6 8,2-8,4
								3 a		_		

Torque control travel s =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test orlite	delivery od stop mp. 40°C (104°F) 2	Rotational-speed 2b limitation intermediate speed	Fuel delivingh idle s	very characteristics 5a	[idle	fuel delivery 6	Torque- travel	control 5
rev/min 1	cm ³ /1000 strokes	rev/min 4a	rev/min 4	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
LDA 700	0,7 bar 181,0-184,0 (178,0-187,0)	1160-1170 *	LDA 700	0 bar 150,0-154,0 (147,0-157,0	100	240,0-280,0 = 20,0-21,0 mm RW	•	-

Checking values in brackets

* 1 mm less control rod travel than col 2

5.85

BOSCH

VOL 12,0 k 5

. 2 -

Testatn =

500

rev/min decreasing pressure ~ in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE6PRS 3118-1 +RQVPA 657-4	0,70	0 0,34 0,17	10,7 - 10,8 9,1 - 9,2 10,5 - 10,6 9,2 - 9,4

Notes.

(1) when a =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 VOL 12,0 K 6

1. Edition

PE 6 P 120 A 320 RS 3118-3 Komb.-Nr. 0 401 846 797 RQV 250-1025 PA 657-6

supersedes compan¥O1∨O

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67

engine: TD 121 FE 257 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Banches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC) RW = 9.0-12.0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,1+0,1	21,4-21,7	0,5 (0,9)			2,5 ± 0,1
250	3,3-3,5	1,8-2,3	0,5 (0,7)			(2,2-2,9)
		_				

Adjust the fuel delivery from such outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	e rated sp	eed	Lower rated	speed		Clidian	leave travet
deflection	rev/min Control rod travel	Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection		Control rod travel	Silding s	leeve travel
	mm	rev/min 2a	lever	rev/min	mm 4	of control lever	rev/min	mm 3	rev/min	mm
1	2	3	4	5	6	.7	8	9	10	11
max.	1090	15,2-17,8	-	-	-	ca. 10	100	min. 4,8		0,7-0,9
ca. 65	11,1	1065-1075 1120-1150					250 345-4	3,3-3,5 05 = 2,0	425 660 - 945	3,4-3,9 6,4-6,6
	1250	0 - 1,0							1025	7,6
						30	:			

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel delivingh idle s	very characteristics 5a	Starting Idle switching		Torque- travel	control 5
rev/min	cm³/1000 strokes .	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travei mm
LDA 700	0,9 bar 214,0-217,0 (211,0-220,0		LDA 700	0 bar 150,0-154,0 (147,0-157,0		240,0-280,0 =20,0-21,0 mm RW	-	-

Checking values in brackets

*1 mm less control rod travel than col. 2 5.85

K17.

BOSCH

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VOL 12,0 K 6

- 2 -

Test at n =

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 6 PRS 3118-1 +RQVPA 657-6	0,90	0 0,52 0,17	12,1-12,2 9,1-9,2 11,9-12,0 9,2-9,4

Notes.

(1) when n =

rev/min and gauge pressure =

WPP 001/4 VOL 12,0 K 7

1. Edition

PE 6 P 120 A 320 RS 3118-4

ROV 250-900 PA 657-7

Supersedes _

Komb.-Nr. 0 401 846 798

company: VOIVO

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test engine. TD 121 FF

tubing 1 680 750 0 67

272 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC) RW = 9,0-12,0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Controt rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
700	13,3+0,1	23,9-24,2	0,5(0,9)			2,5 [±] 0,1
250	3,3-3,5	1,8-2,3	0,5(0,7)			(2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in j

B. Governor Settings

deflection of control	rev/min Control rod travel	Control rod travel mm rev/min 28	Intermediate Degree of deflection of control lever	rated sp rev/min 5	Centrol rod travel	4	Lower rated Degree of deffection of control lever 7	speed rev/min 8	Control rod travel mm 3	Sliding s	mm
max. ca. 59	980 12,3 4,0 1150	15,2-17,8 940-950 1015-1045 0 - 1,0	-	-	-		ca. 7	250	3,3-3,5	430	1,2-1,3 3,5-3,9 6,4-6,6 7,7-7,9
							3				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel dalin	rery characteristics (5e)	Starting Idle switching		Torque- travel	control 5
rev/min	cm ³ /1000 strokes 2	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
LDA 700	0,9 bar 239,0-242,0 (236,0-245,0		LDA 700	0 bar 150,0-154,0 (147,0-157,0		240,0-280,0 =20,0-21,0 mm RW	•	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test af n ≈

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 PRS 3118-4 + RQVPA 657-7	0,90	0 0,74 0,17	13,3-13,4 9,1-9,2 13,1-13,2 9,2-9,4

Notes:

(1) when n =

rev/min and gauge pressure =

WPP 001/4 VOL 12,0 K 8

1. Edition

PE 6 P 120 A 320 RS 3118-4

ROV 250-1025 PA 657-8

supersedes

Komb.-Nr. 0 401 846 799

companyVOIVO

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test

engine: TD 121 FG

tubing 1 680 750 067

280 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC) RW = 9.0-12.0 mm

		2,55-2,75)	11111 (ITOIII 80C)		0 1 L 50 Hall	
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control red travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensic-ning (torque-control valve) mm
700	13,3+0,1	23,9-24,2	0,5 (0,9)			2,5 ⁺ 0,1
250	3,3-3,5	1,8-2,3	0,5 (0;7)			(2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	speed		Intermediate	e rated sp	eed	Lower rated	speed	Cliding	lanua tanuat
deflection	rev/min Control rod travel mm 2	Control rod travel mm rev/min 2a	of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min mm 3	rev/min	mm
max.	1090		-	-	-	ca. 10	100 min. 4,8 250 3,3-3,5	200	0,7-0,9 3,4-3,9
ca. 65	12,3 4,0 1250	1065-1075 1130-1160 0 - 1,0					345-405 = 2,0	660- 945 1025	6,4-6,6 7,6
						3			

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		intermediate speed	Fuel delin high idle s	rery characteristics (5a)	Starting Idle switchir		Torque- travel	control 5
rev/min 1	cm ³ /1000 strokes .	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
LDA 700	0,9 bar 239,0-242,0 (236,0-245,0		LDA 700	0 bar 150-154,0 (147,0-157,0	100	240,0-280,0 =20,0-21,0 mm RW		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.85

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Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

VOL 12,0 K 8

- 2 -

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE6PRS 3118-4 +RQV PA 657-8	0,90	0 0,74 0,17	13,3-13,4 9,1-9,2 13,1-13,2 9,2-9,4

Notes:

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 SSC 21,0 a

1. Edition

PE 12 P 100 A 520 RS 3120

RQV 300-1250 PA 629

supersedes

Komb.-Nr. 0 401 840 717

compaSSC M

engine V 12.520 ANS 1

1- 8- 5-10- 3 - 7 - 6 - 11- 2 - 9 - 4 - 12 0-15-60-75-120-135-180-195-240-255-300-315 ± 0,5° (± 0,75°)

295 kW

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC) RW=9 0-12 0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	12,5+0,1	10,5-10,7	0,35(0,6			
300	8,4-8,6	1,3-1,7	0,35(0,5)		
		ý			<u> </u>	

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated	peed		Intermediate	rated sp	eed	Lower rated	speed		Slidica	leeve travel
Degree of deflection of control	rev/min Control rod travel	Control rod (a) travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		I 1
lever	mm	rev/min (2a)		rev/min	mm (4)	lever	rev/min	mm ③	rev/min	mm
	-		-	5	5	/	Е	18	10	11
max.	1310	15,2-17,8	-	-	-	ca. 17		min.10,0		1,3-1,4
ca. 65	11,5	1290-1300	_			į.	300	8,4-8,6	950 1250	5,4-5,6 7,8-8,0
	4,0	1390-1420			İ				1230	,0-0,0
1	1550	0-1,0				350-460				
		•			:	(3a)				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten	elivery d stop np. 40°C (104°F) 2	Rotational-speed 20 limitation intermediate speed	Fuel deliv	very characteristics 5a	Starting idle switchin	0	Torque- travel	Control rod
rev/min	cm ³ /1000 strokes	rev/min 48	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	
1250	105,0-107,0 (103,0-109,0		-	-	-		8	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

40

WPP 001/4 RVI 14,9 e

1. Edition

En

PES 8 P 120 A 320 RS 3124 RQ 750 PA 596 Komb.-Nr. 0 402 048 701 1-8-4-2-7-3-6-5 je 45° ± 0,5° (± 0,75°) Calibrating nozzle-and-holder assembly 0 688 90? 019 Test-pressure line 1 680 750 067 company RVI engine MIVS (R) 083530 320 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2.75-2.95) mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery cm³/100 strokes	Spring pre-tensioning (torque-control valve) mm
700	11,4+0,1	26,7-26,9	0,5(0,9)			
250	4,2-4,4	1,5-2,1	0,8(1,2)			•

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin FRG Ene rev/min	Control rod	\mathbb{D}	Full-load s Setting po rev/min 3			rev/min	Idle spec Setting p rev/min 7	_		cifications 5 Control rod travel mm	Torque o	Control rod (3)
•	-		•	-	10,4 4,0 900	750-755 776-789 0-1,0	-	•	-	-	-	-

on flyweight assembly dimension a =

mm

Speed regulation: At 750-755 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control leve? mp. 40°C (104°F)	Contro	l rod stop	(3a)	Fuel delive	ery characteristics	(3b)	Starting f	uel delivery
rev/min	cm ³ /~1000 strokes	rev/mii	1		rev/min	cm³/-1000 strokes		rev/min	Control red travel cm ³ /1000 strokes:/ rnm
700	267,0-269,0 (264,0-272,0)				•	-		-	•
				:		7			

Checking values in brackets

5.85

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2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 RAB 12.0 a

1. Edition

En

PE 6 P 120 A 721 RS 3125-1

RO 250/1100 PA 704

compan RABA engine: 176 kW

Komb.-Nr. 0 401 856 704

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

170 K

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3.45 - 3.65)

mm (from BDC)

(torque-control valve) mm 6	Fuel delivery cm ³ /100 strokes 3	erence / strokes	Fuel delivery cm ³ /100 strokes 3	Control rod travel * mm 2	Rotational speed rev/min
		5(0,9)	15,6-15,8	9,7+0,1	1100
		8(1,2)	1,7-2,3	5,9-6,1	250

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking of slider Full-load speed regulation Setting point Test specificate				cifications (4)	Idle sper	•	ation Test spe	Torque control				
	Control red travel mm 2	_	rev/min 3	Control red travel mm 4	Control rod travel rn/m 5	rev/min	rev/min 7	Control rad travel		cifications (5) Control rod travel mm	rev/min	Control rod travel mm
550	15,6-16	, 4	550	16,0		145-1160	250	6,0			1100	9,7-9,8
VH ma	x. 46°					205-1235 0-1,0			250	5,9-6,1	700	9,7-9,9

Torque-control travel on flyweight assembly dimension a =

mm

1145-1160 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever np. 40°C (104°F)	Control rod stop (3a)	Fuel delive	ery characteristics 3b		Starting fuel delivery Idle speed Control		
ಪ್ರಕ/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes	rev/min	cm ³ /1000 strokes / mm		
1100	156,0-158,0 (153,0-161,0)	***	-	***	100	190,0-220,0 (185,0-224,0)		

Checking values in brackets

05.85

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Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 BAO 21.2 b

1. Edition

8 P 130 A 520/4 RS 3126 Komb.-Nr. 0 401 848 758 1-2-4-5-6-3-7-8 je 45° ± 0,5° (± 0,75°)

ROV 400-750 PA 618-1

Calibrating nozzle-and-holder assembly 1 688 901 019 Test-pressure line 1 680 750 067

supersedes companBoudouin engine 8 P 15

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
2,8-2,9
Port closing at prestroke
(2,75-2,95)
mm mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
700	9,3+0,1	19,2-19,5	0,6(1,0)			
400	4,9-5,1	2,3-2,9	1,0(1,4)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated :	peed rev/min	Control rod	Intermediate	rated sp	eed Control rod	Lower rated	speed	Sliding sleeve travel		
deflection	Control rod travel mm 2	travel	deflection	rev/min 5	travel 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min	mm 11
ca. 50	8,3 4,0 900	750-755 770-780 0-1,0	**	-	<u>-</u>	ca. 22	100 400	min.6,5 4,9-5,1	475	0,9-1,1 1,9-2,1 1,9-2,1 5,5

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed (2b) limitation intermediate speed	Fuel deliv	very characteristics (5e speed (5b)	Starting Idle switching	0	Torque- travel	Control cod
rev/min	cm³/1000 strokes .	rev/min 4£	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	8	7	в	9
700	192,0-195,0 (188,5-198,5		1	-	-	-		-

Checking values in brackets

WPP 001/4 BAO 31,8 b 1

1. Edition

PE 12 P 130 A 120 RS 3127

Komb.-Nr. 0 401 830 707

ROV 400-750 PA 632

supersedes company 12 P 15

1-12- 9- 4 - 5 - 8 - 11- 2 - 3 - 10- 7 - 6 0-45-60-105-120-165-180-225-240-285-300-345 ± 5 ° (± 0,75°)

Calibrating nozzle-and-holder assembly 1 688 901 019 Test-pressure line 1 680 750 067

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
2,8-2,9
Port closing at prestroke (2.75-2.95) mm (from BDC)

Control red travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
12,0+0,1	30,7-31,0	0,6(1,0)			
4,4-4,6	2,1-2,7	1,0(1,4)			
•	12,0+0,1	cm ³ /100 strokes 3 12,0+0,1 30,7-31,0	cm ³ /100 strokes cm ³ / 100 strokes described at 12, 0+0, 1 30, 7-31, 0 0, 6(1, 0)	mm cm ³ /100 strokes 2 100 strokes 4 mm 2 12,0+0,1 30,7-31,0 0,6(1,0)	mm cm³/100 strokes cm³/ 100 strokes mm cm³/ 100 strokes 2 cm³/100 strokes 2 cm³/100 strokes 2 cm³/100 strokes 2 cm³/100 strokes 3

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated Degree of deflection of control	speed rev/min Control rod travel	Control rod	(a)	Degree of deflection deflection travel			Lower rated Degree of deflection	speed	Sliding s	Sliding sleeve travel	
lever 1	mm 2	rev/min 3	29	lever	rev/min 5	mm 4	of control lever 7	rev/min	mm 3	rev/min	mm . 11
ca. 25	11,0 4,0 900	750-755 776-789 0-1,0		-	-	•	ca. 6	100 400	min.6,0 4,4-4,6	•	-
							3a				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil te	nd stop mp. 40°C (104°F) 2	intermediate speed	Fuel delin high idle s	rery characteristics 5a	idle	fuel delivery (B)	Torque- travel	-control 5
rev/min	cm ³ /1000 strokes .	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
<u> </u>	12	3	4	5	6	7	8	9
700	307,0-310,0 (303,5-313,5			-	•		1	
						· .		

Checking values in brackets

WPP 001/4 SSC 21,0 b

1. Edition

PE 12 P 120 A 520 RS 3128 Komb.-Nr. 0 401 840 723

RQV 300-1250 PA 639-1

supersedes companySCM

1- 8- 5-10- 3 - 7 - 6 - 11- 2 - 9 - 4 - 12

engine: V 12.520 S 25

 $0-15-60-75-120-135-180-195-240-255-300-315 \pm 0,5^{\circ} (\pm 0,75^{\circ})$ Values only apply to test nozzle-and-holder assembly

1 688 901 019 and fuel-injection test tubing 1 680 750 067

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Adjust the fuel delivery from each outlet according to the values in [

Port closing at prestroke mm (from BDC RW= 9.0-12.0 mm 75-2.95 Rotational speed Control rod Fuel delivery Control rod Difference Fuel delivery Spring pre-tensioning (torque-control valve) cm³/ rev/min cm³/100 strokes 100 strokes mm cm³/100 strokes 1250 13,3+0,1 19,8-20,2 0,5 (0,9 300 7,9-8.1 2,0-2,6 0,8 (1,2

B. Governor Settings

Upper rated :	speed		Intermediate	rated sp	eed	Lower rated	speed		Sliding	leeve travel
Degree of deflection of control	rev/min Control rod travel	Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection		Control rod travel	Sildings	
lever	mm	rev/min 2a	lever	rev/min	mm 4	of control	rev/min	mm 3	rev/min	mm
	2	3	4	5	6	7	8	9	10	11
max.	1305	15,2-17,8	-		i.a	ca. 17	100	min.9,5	300	1,3-1,5
ca. 63		1290-1300					300		1000 1250	5,7-6,0 7,8-8,0
	1550	1415-1445 0-1,0			•	350-460	•			
****						(3a)				

Tampel control travels =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle :	very characteristics 5a	Starting Idle switching		Torque- travel	Control roo
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	
1250	198,0-202,0 (195,0-205,0		-	-	100	230,0-250,0 (226,0-254,0)	-	-

Checking values in brackets

40

WPP 001/4 SSC 21,0 b 1

1. Edition

PE 12 P 120 A 520 RS 3128 RQV 400-750 PA 708 supersectes
Komb.-Nr. 0 401 840 721
1- 8- 5-10- 3 - 7 - 6 - 11- 2 - 9 - 4 - 12
0-15-60-75-120-135-180-195-240-255-300-315 ± 0,5° (± 0,75°) engine V 12.520 S 25
Calibrating nozzle-and-holder assembly 0 688 901 019
Test-pressure line 1 680 750 067

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
14,3+0,1	22,9-23,1	0,5(0,9)			
6,9-7,1	2,0-2,6	0,8(1,2)			
	mm 2 14,3+0,1	travel cm ³ /100 strokes 2 3 14,3+0,1 22,9-23,1	travel cm ³ /100 strokes cm ³ / 100 strokes 2 cm ³ / 100 strokes 4 14,3+0,1 22,9-23,1 0,5(0,9)	travel travel travel travel travel travel travel travel travel travel travel travel	travel travel travel travel travel travel travel travel 100 strokes 2 2 3 4 0,5(0,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che		(1)	Full-load : Setting po	int		cifications (4)	Idle spe	_		cifications (5)	Torque d	control 3
rev/min	Control rod travel mm 2		rev/min 3	Control rod travel mm 4	Control rad travel mm	rev/min	rev/min	Control rod travel rrtiro 8	rev/min 9	Control rod	rev/min	Control rod (travei
-	`		•	-	13,3 4,0 900	750-755 780-793 0-1,0	400	7,0		min.8,5 6,9-7,1	•	-

Torque-control travel on flyweight assembly dimension a =

mm

750-755 min Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	3 b	Starting f	
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes		rev/min 6	Control rad travel cm ³ /1000 strokes:/ mm
700	229,0-231,0 (226,0-234,0)	-	-	-		100	170,0-190,0 (166,0-194,0)

Checking values in brackets

05.85

BOSCH

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 BAO 15.9 c

1. Edition

PES 6 P 130 A 320 RS 3133 Komb.-Nr. 0 402 046 753

ROV 350-900 PA 618

supersedes company Boudouin engine: 368 kW

Calibrating nozzle-and-holder assembly 0 681 443 022 Test-pressure line 1 680 750 060

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Rotational speed rev/min	travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
900	11,7+0,1	32,8-33,2	0,6 (1,05)		
350	3,9-4,1	2,0-2,6	0,95(1,3)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed	1		Intermediate	rated sp	eed	Lower rated	speed		Stiding	logue trough
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 3	(18) (28)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min	mm
max.	940	15,2-17	8				ca. 22		min. 5,5	325	1,1-1,4
ca. 60	10,7 4,0 1150	940-950 1000-103 0-1,0	30				350-4 50			500 800 900	8,1-3,8 6,5-6,9 8,0
							<u>3</u>				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel delin	Fuel delivery characteristics (Se) high idle speed (5b)		fuel delivery 6	Torque- travel	control 5
rev/min	cm ³ /1000 strokes .	rev/min 4a	rev/min	cm ³ /1000 strokes	rav/min	cm³/1000 strokes	rev/min	travel mm
900	328,0-332,0 (324,0-336,0)	940-950*	-		-	:	-	<u>-</u>

Checking values in brackets

①

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 RVI 12,0 f

En

1. Edition

PES 6 P 120 A 320 RS 3139 RQV 275-950 PA 728 Komb.-Nr. 0 402 046 756 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

supersedes RVI compa MIDR 063540 engine 259 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Port closing mark 9° after port closing cylinder 1

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	- 12,0 mm Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes	mm 6
950	13,0+0,1	24,1 - 24,3	0,5(0,9)			
275	5,4-5,6	2,0 - 2,6	0,8(1,2)			

Adjust the fuel delive y from each outlet according to the values in

B. Governor Settings

Upper rated :	speed		Intermed	iate rated sp	eed	Lower rafed	speed		011-11-	
Degree of deflection of control lever	rev/min Control rod travel mm 2	mm	Degree of deflection of control lever	n	Control of travel mm	Degree of deflection of control lever	rev/min	Control rod travel		mm
max.	1140	5,2-17,8	-	-	-	ca. 12	200	min. 7,0	250	1,0-1,2
ca. 62	12,0	015-1025					275	1 5,4-5,6	450	3,3-3,8
	4,0	115-1185						•	800	5,8-6,0
	1250	0 - 1,0				295-400 ③		•	950	6,9

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed limitation intermediate speed	high idle	very characteristics 5a	Idle	fuel delivery 6	Torque- travel	control (5)
rev/min	cm ³ /1000 strokes	rev/min 3	rov/mi33	cm ³ /1009 strokes 5	r a v/min 6	cm ³ /1000 strokes	rev/min	travel mm
LDA 950	1,0 bar 241,0-243,0 (238,0-246,0)	1015 - 10	25* LDA 600 LDA 500	1,0 bar 246,0-252,0 (243,0-255,0) 0 bar 111,0-113,0 (108,0-116,0)	100 275	140,0-160,0 (136,0-164,0 20,0-26,0 (17,0-29,0)		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

RVI 12,0 f

. 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 PRS 3139	1,0		13,0 - 13,1
+ RQVPA 728		0 .	9,2 - 9,3
		0,60	12,3 - 12,4
		0,20	9,9 - 10,5
			

Notes:

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

En

WPP 001/4 RVI 12,0 f 1

1. Edition

En

PES 6 P 120 A 320 RS 3139 Komb.-Nr. 0 402 046 758

RQV 275-950 PA 728-1

supersedes _

company: RVI

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

ne: MIDR 063540

243 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing mark 9.0° after port closing cylinder 1

Rotational speed rev/min	Control rod trave: mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control zive) mm
950	12,5+0,1	22,9-23,1	0,5(0,9)			
275	5.4-5.6	2,0-2,6				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed	1		Intermediate	rated sp	eed	Lower rated	speed		Sliding	Sliding sleeve travel	
Degree of deflection of control	rev/min Control rod travel	CEA01	(E)	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	1		
lever 1	мм 2	rev/min (20)	lever 4	rev/min 5	mm (4)	lever	rev/min 8	mm 3	rev/min	mm 11:	
max.	1140	15,2-17	,8	-	•	•	ca. 12		min.7,0	250	1,0-1,2	
ca. 62	11,5 4,0 1250	1015-102 1155-118 0 - 1,0	5				300-400	275	5,4-5,6	450 800 950	3,3-3,8 5,8-6,0 6,9	
	.200	0 - 1,0					3a					

Torque control travel a = "

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil te		Rotational-speed 2b limitation intermediate speed	Fuel deli-	very characteristics 5a	Idle	fuel delivery 6	Torque- travel	Control roo
rev/min 1	cm³/1000 strokes .	rev/min 4e	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min 8	travel
LDA 950	1,0 bar 229,0-231,0 (226,0-234,0)	1015-1025 *	LDA 600 LDA 500	1,0 bar 231,0-237,0 (228,0-240,0) 0 bar 111,0-113,0 (108,0-116,0)	275	140,0-160,0 (136,0-164,0) 20,0-26,0 (17,0-29,0)	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

RVI 12,0 + 1

- 2 -

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 P RS 3139 + RQV PA 728-1	1,0	0 0,50 0,20	12,5-12,6 9,3-9,4 11,7-11,8 9,8-10,4

Notes

(1) when n =

rev/min and gauge pressure =

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 UNI 9,5 a

1. Edition

PES 6 P 110 A 720 RS 3140

Komb.-Nr. 0 402 046 757

ROV 275-1100 PA 501-2

supersedes company ECO-UNIC 8460.21.102 engine 192 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 3.2 - 3.3

Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1100	11,5+0,1	14,6-14,9	0,4(0,75)	2	3.	6
275	6,7-6,9	2,2-2,7	0,45(0,75)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed	Lower rated	speed		Cti din -		
Dagree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min ((8)	Dagree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	Sliding s	0	
max.	1160	15,2-17,	8	•	-	-	ca. 14		min.8,3	250	1,0-1,2	
ca. 64	10,5	1140-115 1215-124						275	6,7-6,9		2,7-3,0 5,5-5,7	
	1350	0-1,0					280-375			1100	7,7-7,9	
							3 a					

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten	elivery d stop np. 40°C (104°F) 2	Rotational-speed 2b limitation intermediate speed	ntermediate speed 55		id!e	fuel delivery 6	Torque- travei	Control rod
rev/min 1	cm ³ /1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
LDA 1100	0,7 bar 146,0-149,0 (143,5-151,5		LDA 500	0 bar 131,0-134,0 (128,5-136,5		170,0-190,0 (166,0-194,0)	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

UNI 9,5 a

-2-

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PES 6 PRS 3140 + RQVPA 501-2	0,70		11,5-11,6
		0 0,265	10,8-10,9 11,2-11,3

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

12

WPP 001/4 MB 14,6n 4 · Edition

PE 8 P 110 A 320 LS 3802

RQ 750 PA 374 R

supersedes 9.83

Komb.-Nr. 0 401 848 737

1 - 8 - 7 - 2 - 6 - 3 - 5 - 4 je $45^{\circ} \div 0.5^{\circ}$ ($\div 0.75^{\circ}$)

company: Daimler-Benz

Note VDT - I - 401/102

OM 420

154 kW (209 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

cy1. 8: RW = 9.0-12.0 mm

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery mit RSD (1) cm³/100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery Ohne RSD (2) cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
700	13,9+0,1	14,2-14,4	0,4(0,8)	13,9+0,1	14,2-14,4	
300	8,3-8,4	1,3- 1,9	0,4(0,7)	8,3-8,4	1,3- 1,9	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Check PRG c	_	of slider	\bigcirc	Full-load s		-					cifications (5)	Torque control (3)		
rev/mi	tre	ontrol rod avel m	•		Control rad travel	Control red travel	rev/min		Control red travel	rev/min	Control rod travel mm	rev/min	Control rod travel mm	
-		•		•	•	12,9 6,1	750-755 783-796	-	-	-	•	-	-	

Torque-control travel on flyweight assembly dimension a =

750-755 min -1 Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics	/つに\	Starting f	uel delivery d
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/min	red travel cm ³ /1000 strokes:// mm 7
(1 u.2 700	142,0-144,0 (139,0-147,0)	-	-	-		(1) 100 (2) 100	130,0-150,0 140,0-160,0 (136,0-164,0)

Checking values in brackets

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MB 14,6 a 1 3. Edition

PE 8 P 110 A 320 LS 3802

RQ 300/1150 PA 437-3

supersedes 5.84

Komb.-Nr. 0 401 848 755

company. Daimler-Benz

OM 422

1 - 8 - 7 - 2 - 6 - 3 - 5 - 4 je $45^{\circ} \pm 0.5^{\circ}$ ($\pm 0.75^{\circ}$)

184 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

-control valve)	Spring pr (torque-c mm	uel delivery m ³ /100 strokes	Control rod travel mm	Difference cm ³ / 100 strokes 4	Fuel delivery cm ³ /100 strokes 3	Control rod travel • mm 2	Rotational speed rev/min
				0,4(0,8)	11,3-11,5	11,0+0,1	1150
]			0,4(0,7)	1,4-2,0	85-87	300
				0,6(0,9)	C, Sp. 4 u.5	-	600
				0,6(0,9)	c, sp. 4 u.5		600

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che		Full-load s Setting po			cifications (4)	Idle speed regulation Setting point Test specifications (5)				Torque control		
rev/min	Control rod travel mm	rev/min 3	Cantrol rad travel rnm 4	Centrel red travel mm	rev/min	rev/min	Control red travel rnm 8	rev/min	Control rod travel	rev/min	travel	
650	13,2-14,0	650	13,6	10,0 4,0 1350	1195-1210 1260-1290 0-1,5		8,1	100 300 400-4	min.8,5 7,0-7,2 49 = 2,0		11,0-11,1 11,2-11,4	

Torque-control travel on flyweight assembly dimension a

Speed regulation: At 1195-1210 min-1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	3 b	Starting f	. •
rev/min	cm ³ /~1000 strokes 2 .	rev/min 3	rev/min	cm ³ /-1000 strokes		rev/min	Central red travel cm ³ /1000 strokes:/ mm
1150	113,0-115,0 (110,5-117,5)	600	600	92,0-96,0 (89,0-99,0)		100	130,0-150,0 (126,0-154,0)

Checking values in brackets

5.85

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Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 14,6c

6 Edition

PE 8 P 110 A 320 LS 3802

RQV 300-1150 PA 524-2 ROV 300-1150 PA 524-3 supersede9.83

Komb.-Nr. 0 401 848 712

company:Daimler-Benz

1 - 8 - 7 - 2 - 6 - 3 - 5 - 4 je $45^{\circ}-0.5^{\circ}$ (-0.75°)

engine: OM 422

Note VDT - I - 401/102

206 kW (280 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mra (from BDC) Zy1.8; RW = 9.0-12.0 mm

Rotational speed rey/min	Control rod travel mm 2	travel		Control rod travel mm 2	Fuel delivery ** cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1150	12,3+0,1	12,2 - 12,4	0,4(0,8)	11,7+0,1	13,3-13,5	
300	8,1-8,3	1,3 - 1,9	0,4(0,7)	7,9-8,1	1,5- 2,1	_
600	-	C, Sp. 4 u. 5	0,6(0,9)	-	C, Sp. 4 u. 5	
* with re	urn thro	ttle (1)		** with	ut return thro	ttle (2)

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	speed		Intermediate	e rated sp	eed	Lower rated	speed		Sliding sleeve travel	
deflection	rev/min Control rod travel mm 2	Control rod travel mm rev/min 2	of control	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3		mm 11
max.	1150°	15,2-17,8	-	-	-	ca. 21	100	min.10,1		1,0-1,2
ca. 66	11,3	1190-1200 1235-1265				330-465	l	8,1-8,3		3,4-3,7 5,0-5,3 7,7
		•				3				:

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed 2b fimitation intermediate speed	Fuel deliv	very characteristics 58 speed 5b	Starting Idle switching	\circ	Torque- travel	Control rod
rev/min 1	cm ³ /1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
(1) 1150	122,0-124,0 (119,0-127,0)	1190-1200*	600	114,0-118,0 (111,0-121,0)	100	130,0-150,0		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Upper rated sp	beed			Intermediate	rated spe	eed	Lower rated	speed			
deflection Control travel control rodtravel mm		(a)	Degree of deflection		Control rod	Degree of deflection of control	1	Control rod travel	Sliding sleeve trave		
		rev/min	(2a)	lever	rev/min	mm 4	lever	rev/min	mm (3)	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
max.	1150	15,2-17	,8	-	_	-	ca.21	100	min.10,1	250	1,0-1,2
ca. 66	10,7	1190-12 1235-12						300	8,4-8,6	550 850	3,4-3,7 5,0-5,3
	.,,	1200-12	.03				330-465 (3a)			1150	7,7

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roi Test oil ten	stop	Rotational-speed 2b ilmitation intermediate speed	Fuel deln high idle :	very characteristics 5a speed 50	Starting Idle switchii		Torque- travel	control 5
rev/min	cm ³ /1000 strokes	rev/min 48	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
(2) 1150	132,5-134,5 (130,0-137,0	1190-1200*)	600	110,5-114,5 (107,5-117,5)	ŀ	130,0-150,0	i	•

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col 2

B. Governor Settings

Upper rated s	speed			Intermediate	rated spe	ed	Lower rated	speed		Sliding sleeve trav	
Degree of deflection of control lever	Control rod travel		(a)	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	Slidings	leeve travel
lever		rev/min	(2a)	lever		mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3		4	5	6	7	8	9	10	_11
						İ					
			[
			- 1		,		i				
			ĺ				(3a)				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Contro	d delivery -rod stop temp 40°C (104°F) (2)	Rotational-speed (2b) Ilmitation intermediate speed	Fuel deln high idle :	very characteristics 5a speed 56	Starting lole switching		Torque- travel	control 5
rev/mir	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	,	rev/min	Control rod travel
<u> </u>			-	<u>.</u>	6	[8	9

Checking values in brackets

WPP 001/4 MB 14,6c1
3. Edition

En.

PE 8 P 110 A 320 LS 3802-1

ROV 300-1150 PA 524-9

supersede2.83

Komb.-Nr. 0 401 848 752

companyDaimler-Benz

1 - 8 - 7 - 2 - 6 - 3 - 5 - 4 je $45^{\circ} \stackrel{+}{=} 0,5^{\circ} (\stackrel{+}{=} 0,75^{\circ})$

engine. OM 422

Note VDT - I - 401/102

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery ★ cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery ** cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	12,3+0,1	13,1-13,3	0,4(0,75)	12,3+0,	13,1-13,3	
300	8,0-8,2	1,5- 2,1	0,4 (0,75)8,0-8,	1,5-2,1	
600	-	C, Sp. 4 u. 5	0,6 (0,9)	- (, Sp. 4 u.5	
* with ret	urn thro	tle (1)		** witho	ut return thro	tle (2)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	e rated sp	eed	Lower rated	speed		Ottobal and	
deflection	rev/min Control rod travel	Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection		Control rod travel	Sliging s	leeve travel
	mm 2	rev/min (2a 3	lever 4	rev/min 5	mm 4 6	of control lever 7	rev/min 8	mm 3 9	rev/min 10	mm 11
max.	1150	15,2-17,8	-	-	-	ca. 21	100	min. 9,7	250	1,0-1,2
ca. 66		1190-1200 1235-1265					300			3,4-3,7 4,9-5,3
						330-465 ③			1150	7,6

Torque control travél a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-root Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel delivingh idle s	very characteristics (5a) speed (5b)	Starting Idle switching		Torque- travel	Control o
rev/min 1	cm ³ /1000 strokes . 2	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
	131,0-133,0 (128,5-135,5)		600	110,0-114,0 (107,0-117,0)	100	130,0-150,0 (126,0-154,0	1	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

L17

Lower rated speed

Degree of deflection of control	irev/min Control rodtravel		(la)	Degree of deflection of control		Control rod travel	_	Degree of deflection of control		Control rod travel	3	1
lever	mm	rev/min	(2a)	lever	rev/min	W W	(lever	rev/min	mm (3)	rev/min	mm
1	2	3		4	5	6		7	8	9	10	11
max.	1150	15,2-17	,8	-	-	-		ca. 21	100	min.9,7	250	1,0-1,
ca. 66	11,3 4,0	1190-12 1235-12						330-465 (3e)	300	8,0-8,2		3.4-3, 4,9-5, 7,6
Torque control C. Setti	ngs f	or Fue										
Full-load delivi	ery	R	otatioi	nal-speed (2)	√l Fuei de	livery charac	teris	tics En Start	ting fuel d	elivery (\! Torque	-control (

Intermediate rated speed

Testoil-150 4113

Upper rated speed

Full-load di Control-rod Test oil ten		Rotational-speed (2b imitation intermediate speed	Fuel deln high idle s	very characteristics 58 speed 50	lale	fuel delivery 6	Torque- travel	Control rod
rev/min	cm ³ /1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
(2) 1150	131,0-133,0 (128,5-135,5		600	112,0-116,0 (109,0-119,0)	100	130,0-150,0 126,0-154,0)	-	-

Checking values in brackets

B. Governor Settings

Upper rated :	speed			Intermediate	rated spe	ed	Lower rated	speed		Slidene	leave travel
Degree of deflection of control	rev/min Control rod travel	Control rod travel	(le)	Degree of deflection of control	ŀ	Control rod			Control rod travel	Sliding sleeve travel	
lever	mm	rev/min	(29)	lever	rev/min	mm 4	lever	rev/min	mm 3	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
									•		
			!								
							3 a)				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load Control-r Test oil te		Rotational-speed (20) Imitation Intermediate speed	Fuel deli high idle :	very characteristics 5a speed 5b	Starting Idle switchis		Torque-control 5		
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min		rev/min	Control rod travel	
1	2	3	4	5	6	7	8	9	
					İ	. '			
Į					l				
					ł				
İ						1			

Checking values in brackets

^{* 1} mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 14,6 a 3

1. Edition

En

PE 8 P 110 A 320 LS 3802-10

RQV 300-1150 PA 486-3

supersedes

companDaimler-Benz engine OM 422 184 kW

Komb.-Nr. 0 401 848 756

1-8-7-2-6-3-5-4 je 45 ° $\stackrel{+}{=}$ 0,5 ° ($\stackrel{+}{=}$ 0,75 °)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2)

(3.95-4.15)

mm (from BDC)Zy1. 8

Rotational speed rev/min	Control rod travei mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1150	11,0+0,1	11,3-11,5	0,4 (0,8)			
300	8,4-8,6	1,4-2,0	0,4 (0,7)			
600	•	C, Sp. 4 u. 5	0,6 (0,9)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	Speed	•	Intermediate	rated sp	eed	Lower rated	speed		Clining	
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm 2a rev/min 2a	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
max.	1190	15,2-17,8	-	-	-	ca. 22	100	min.9,7	300	1,6-1,8
ca. 54		1190-1200 1230-1260 0-1,0			·		300 410-4	8,0-8,2 80 = 2,0		5,8-6,2 8,2-8,4 10,0
						3 4				

Torque control travel a = 0 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-ros Test oil ten rev/min		Rotational-speed 2b limitation intermediate speed rav/min 4a	high idle :	very characteristics (5a)	idle switchin		Torque- travel	Control (5) Control rod travel mm
1150	113,0-115,0 (110,5-117,5		600	92,0-96,0 (89,0-99,0)	100	140,0-160,0 (136,0-164,0	1150) 600	9 11,0+0 11,2+0

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 MB 14,6 c 2

1. Edition

En

PE 8 P 110 A 320 LS 3802-10 Komb.-Nr. 0 401 848 712

RQV 300-1150 PA 524-2

supersedes

KOMD.-Nr. U 401 848

1-8-7-2-5-3-5-4 je 45 ° $\stackrel{+}{-}$ 0,5 ° ($\stackrel{+}{-}$ 0,75 °)

companyDaimler-Benz engine: OM 422

206 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

4,0-4,1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,7+0,1	13,4-13,6	0,4 (0,8)			
300	7,9-8,1	1,5-2,1	0,4 (0,7)			
600	-	C, Sp. 4 u. 5	0,6 (0,9)	E.		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated a	peed		Intermediate	rated sp	eed		Lower rated	speed		C: -	
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 2a	Degree of deflection of control lever	rev/min 5	Control rod travel mm (4	Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	rev/min	mm
max.	1190	15,2-17,8	-	-	-		ca. 22		min. 9,6		1,6-1,8
ca. 55	10,7 4,0	1190-1200 1240-1270			,				17,9-8,1 170 = 2,0		5,8-6,2 8,2-8,4 10,0
			3				3 8				

Torque control travel # = _ mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitrition internediate speed	Fuel deli- high idle s	very characteristics 5a	Starting Idle switching		Torque- travel	control 5	
rev/min	cm ³ /1000 strokes . 2	rev/min 48	rev/min 4	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm	
1150	133,5-135,5 (131,0-138,0)		600	110,5-114,5 (107,5-117,5		130,0-150,0 (126,0-154,0	-	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.85

BOSCH

Geschäftsbereich KM. Kundendienst, Kfz-Ausrustung. 6. by Robert Bosch GmbH, D-7. Stuttgart 1, Postfach 50. Printed in the Federal Republic of Germany Imprime en Republique Federale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 FIA 17,2 b 3

1. Edition

En

PE 8 P 120 A 920/5 LS 3804 RQV 300-1200 PA 357 R Komb.-Nr. 0 401 848 735
1-8-4-3-6-5-7-2 je 45° ± 0,5° (± 0,75°)
Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67
Il test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

supersedes

company:Fiat

engine: 8280.02.183

257 kW

A. Fuel Injection Pump Settings

3,5-3,6 mm (from 8DC) RW = 9,0-12,0 mm

Rotational speed rev/min 1		Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1200	9,3-9,4	14,9-15,1	0,5 (0,9			2,5 ± 0,1
300	5,5-5,7	2,8-3,4	0,8 (1,2)		
	,					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

deflection	rev/min Control rod travel mm	Control rod ta travel mm rev/min 28	Intermediate Degree of deflection of control lever	rated spi rev/min 5	Control rod travel	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel mm 3	Sliding s	mm
max. ca. 59	8,3 4,0 1450	15,2-17,8 1240-1250 1305-1335 0 - 1,0	-	-	-	ca. 12 330-430 3a	300		450	0,8-1,1 2,8-3,3 5,5-5,8 8,3

Torque control travel a = - mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten	d stop np. 40°C (104°F) 2	intermediate speed	(30)		Starting Idle switching		Torque- travel	Control cod	
rev/min	crh³/1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm	
1	2	3	4	5	6	7	8	9	
1200	149,0-151,0 (146,0-154,0	1240-1250 *))	-	-	-	· <u>-</u>	-	-	

Checking values in brackets

* 1 mm less control rod travel than coi. 2

WPP 001/4 FIA 17,2 b 2

8285.22.002 243 kW

1. Edition

_{company}Fiat

Festoil-ISO 4113

Komb.-Nr. 0 401 848 722

1 - 8 - 4 - 3 - 6 - 5 - 7 - 2 je $45^{\circ} + 0.5^{\circ} + 0.75^{\circ}$

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test

PE 8 P 120 A 920/5 LS 3804 Z ROV 300-1050 PA 552

tubing 1 680 750 067

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC) (3.45 - 3.65)

	Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	1050	11,1+0,1	18,1 - 18,3	0,5(0,9)			$2,5 \pm 0,1$
	300	5,9-6,1	2,4 - 3,0	0,8(1,2)			
-							

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated speed				Intermediate rated speed				Lower rated speed				Sliding sleeve travel	
deflection of control	rev/min Control rod travel	mm -		of control		Control rod travel		Degree of deflection of control		Control rod travel		1	
lever 1	mm 2	rev/min (29)	lever 4	rev/min 5	6 6	(4)	lever 7	rev/min 8	mm 9	(3)	rev/min 10	mm 11
max.	1050	15,2-17	,8	-	-	-		ca. 11	100	min.	7,5	275	1,0-1,3
ca.64	10,1	1090-110				,			300	¹ 5,9-6	,1		3,5-4,1 6,1-6,3
	1350	0 - 1	,0					310-410			1	050	8,2
						3		3					

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load di Control-roi Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel delivings ide s	very characteristics Sa	Starting Idle switchin	\sim	Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
LDA 1050		1090-1100 *	LDA 1050	0 bar 135,0-137,0 (132,0-140,0	-	-	•	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference			
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .			
PE 8 PLS 3804 Z +RQVPA 552	0,70	0 0,29 0,25	11,1 - 11,2 8,5 - 8,6 10,2 - 10,3 9,0 - 9,3			

Notes

(1) when n =

rev/min and gauge pressure 2